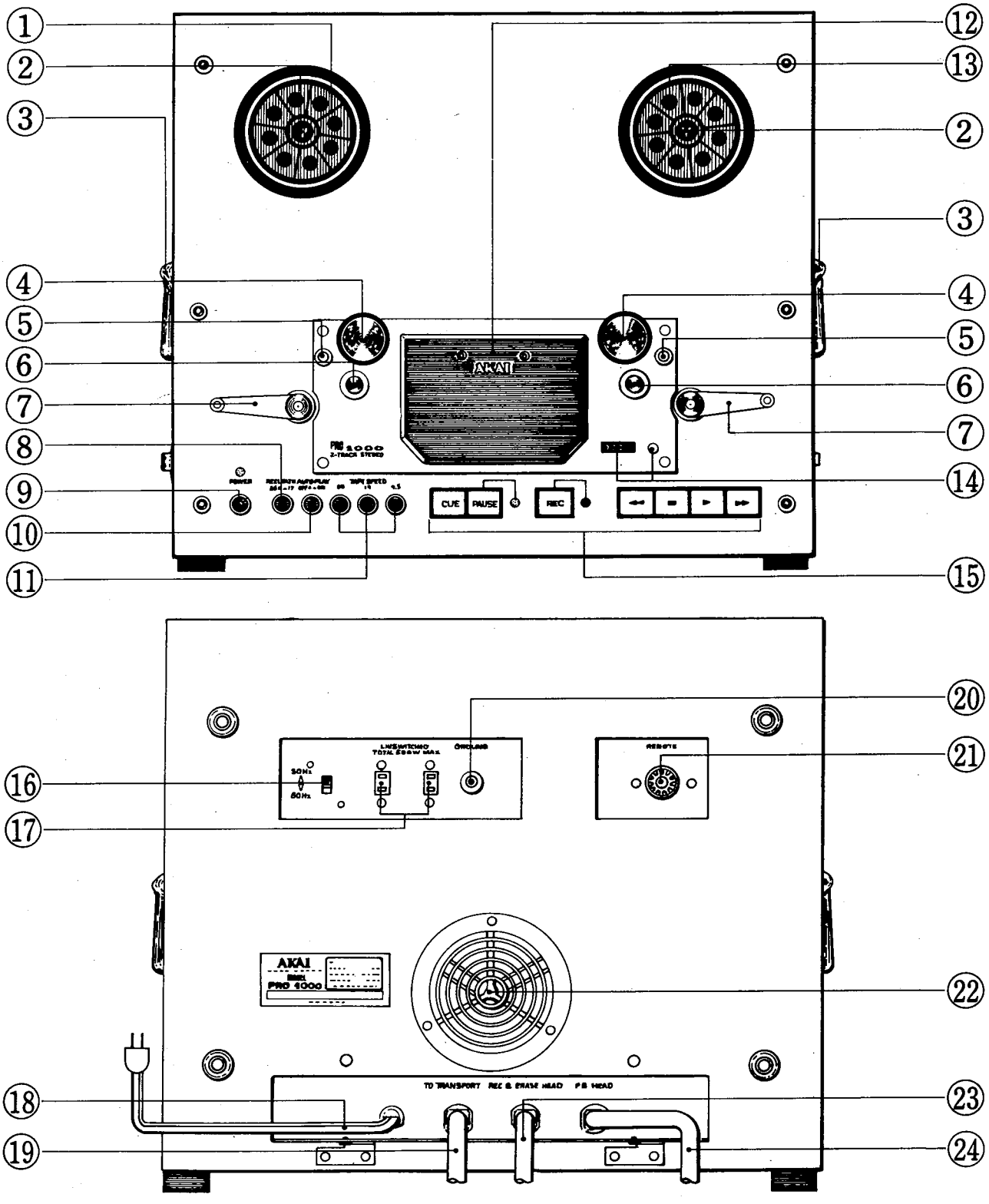
I. TECHNICAL DATA

RECORDING TRACK SYSTEM		2-track, 2-channel stereo system
PLAYBACK TRACK SYSTEM		2-track, 2-channel stereo system 4-track, 2-channel stereo system
MAXIMUM REEL SIZE		Size 26 (No. 10)
TAPE SPEED		38cm/sec, 19cm/sec, 9.5cm/sec
TAPE SPEED DEVIATION		±0.5%
WOW AND AND FLUTTER		38cm/sec: 0.025% WRMS 19cm/sec: 0.04% WRMS 9.5cm/sec: 0.08% WRMS
TAPE RISING CHARACTERISTICS		0.8 sec at 38cm/sec speed (Time from start-up to time wow and flutter enter specified value)
FREQUENCY CHARACTERISTICS		38cm/sec, 0VU recording: 50~20,000Hz, ±1dB 19cm/sec, 0VU recording: 40~24,000Hz, ±3dB 9.5cm/sec, 0VU recording: 60~12,000Hz, ±3dB
OVERALL HARMONICS DISTORTION RATE		Not more than 1%, 1kHz, 0VU (38cm/sec, 19cm/sec, 9.5cm/sec)
TOTAL S/N RATIO		60dB
PLAYBACK COMPENSATION CHARACTERISTICS		NAB
ERASE RATIO		70dB
RECORDING BIAS FREQUENCY		150kHz
HEADS (4)		2-track recording GX head, 2-track playback GX head 4-track playback GX head, Full-track erase head
MOTORS (3)		AC servo, oil circulating type, no-oil-supply motor with built-in CPG for capstan drive x 1 Oil-circulating type, no-oil-supply, 6-pole, eddy cerrent motor x 2
FAST-FORWARDING AND REWINDING TYPE		Within 120 sec (for 740m tape)
INPUT	MICROPHONE (4)	Optimum impedance: 600~10 kohms Minimum input level: 0.3mV/−69dB
	LINE (4)	Input impedance: 100 kohms Minimum input level: 70mV/−21dB
OUTPUT	LINE (4)	Load impedance: Not less than 10 kohms Output impedance: Not more than 100 ohms Reference output: 0dB (0.775V)
	MIXER (2)	Load impedance: Not less than 20 kohms Output impedance: Not more than 1 kohms Output level: 300mV
	HEADPHONES	50mV/8 ohms
LEVEL METER	PEAK	Conforms to DIN Standard, Response time: 0.01 sec Meter return time: 0.8 sec
	VU	Conforms to BTS Standard
SEMI-CONDUCTORS		130 transistors, 4 diodes, 6 FETs and 2 ICs.
POWER SUPPLY		100V AC, 50/60Hz
POWER CONSUMPTION		116W
EXTERNAL DIMENSIONS (W x H x D)		Mechanism section: 486 x 412 x 284mm Amplifier section: 486 x 231 x 309mm
WEIGHT		Mechanism section: 28.3kg Amplifier section: 10.2kg
STANDARD ACCESSORIES		Metalic Size 26 (No. 10) empty reel x 1, reel hub adapter x 2, recording connection cord x 1 set, sensing tape x 1 and operator's manual x 1

* Technical Data and external appearance are subject to change without notice.
* If not stated otherwise, the Technical Data are those obtained through measurements carried out in conformity with methods specified in the Japanese Industrial Standard (JIS) and with SCOTCH #206 used as the standard tape.

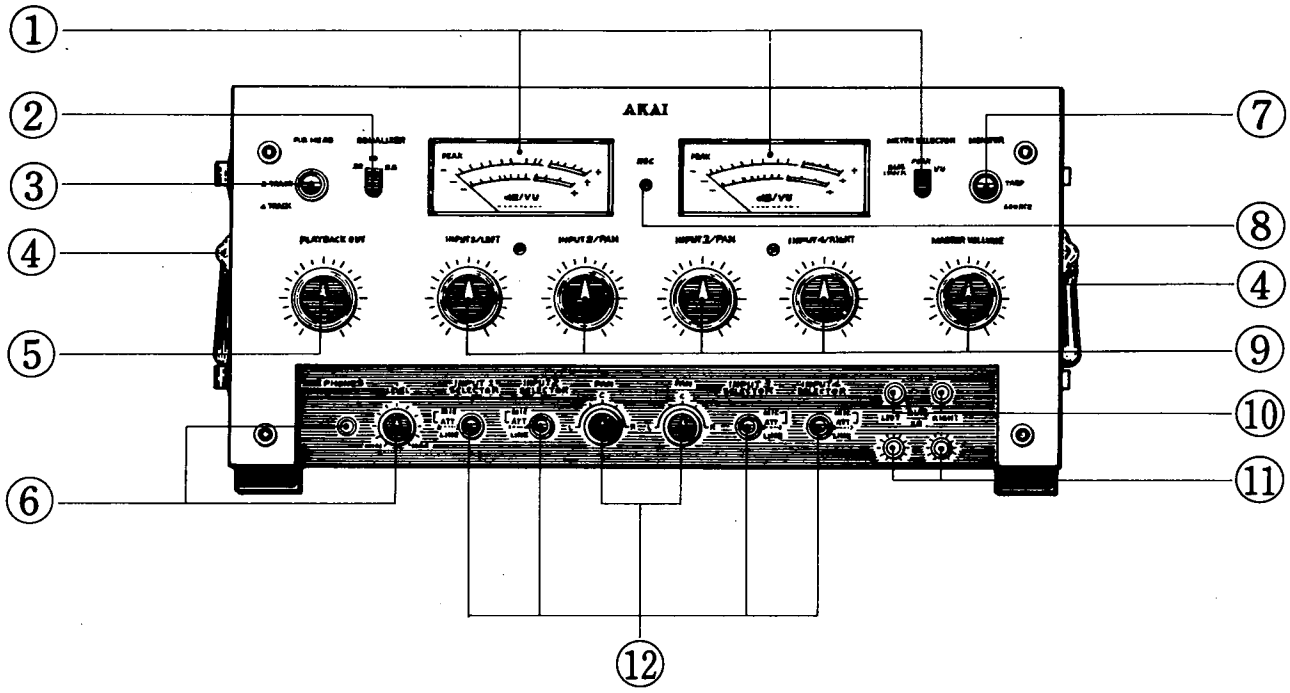
II. CONTROLS

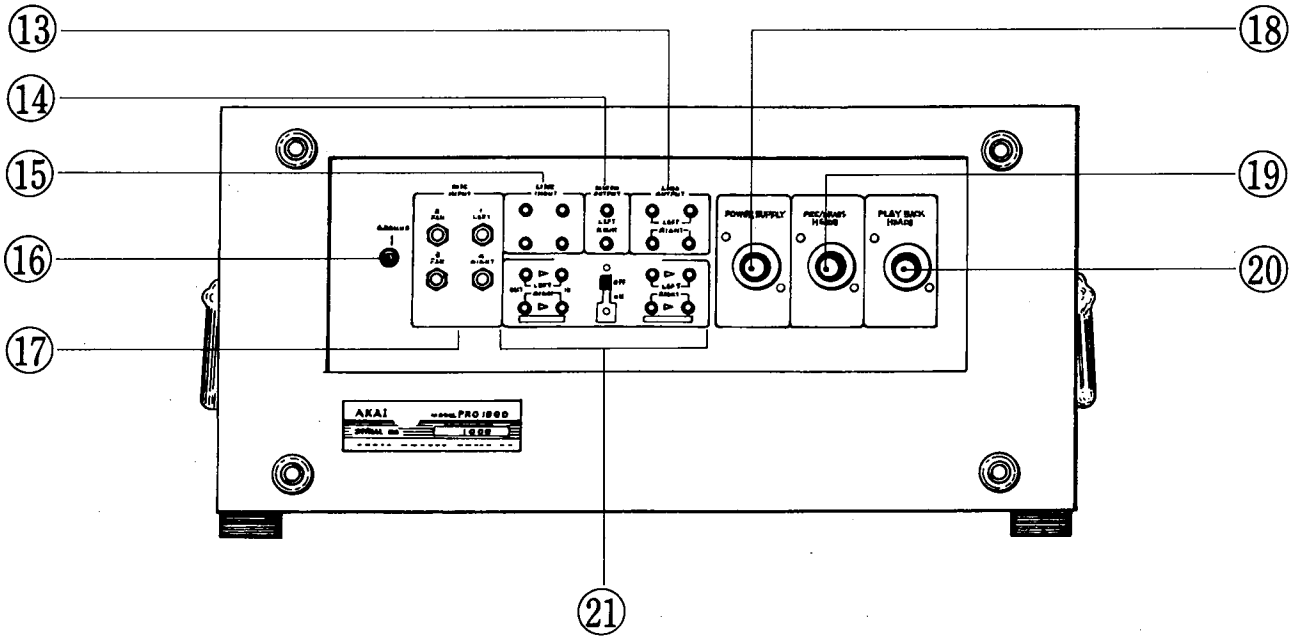
1. MECHANISM SECTION



1 SUPPLY REEL TABLE
2 REEL RETAINER
3 HANDLE
4 PINCH ROLLER
5 TAPE GUIDE
6 CAPSTAN
7 TENSION LEVER
8 REEL SIZE SELECTOR (REEL SIZE)
9 POWER SWITCH (POWER)
10 AUTOMATIC PLAY SWITCH (AUTO PLAY)
11 TAPE SPEED SELECTOR (TAPE SPEED)
12 HEAD COVER
13 TAKE-UP REEL TABLE
14 INDEX COUNTER AND RESET BUTTON
15 OPERATING BUTTONS
PLAY BUTTON (▶)
EAST FORWARD BUTTON (▶▶)
REWIND BUTTON (◀◀)
STOP BUTTON (■)
RECORDING BUTTON (REC)
PAUSE BUTTON (PAUSE)
CUE BUTTON (CUE)
16 CYCLE CHANGE SWITCH
17 AC OUTLET
18 POWER CORD
19 CONNECTING CORD FOR MECHANICAL SECTION (TO TRANSPORT)
20 EARTH TERMINAL
21 REMOTE CONTROL JACK
22 VENTILATOR
23 CONNECTING CORD FOR RECORD AND ERASE HEADS (REC/ERASE HEADS)
24 CONNECTING CORD FOR PLAYBACK HEADS (P.B. HEADS)

2. AMPLIFIER SECTION





1 LEVEL METERS AND METER SELECTOR (METER SELECTOR)
2 EQUALIZER CHANGE SWITCH (EQUALIZER)
3 PLAYBACK HEAD CHANGE SWITCH (P.B. HEAD)
4 HANDLE
5 OUTPUT LEVEL ADJUSTMENT CONTROL (PLAYBACK OUT)
6 HEADPHONE JACK AND HEADPHONE OUTPUT LEVEL ADJUSTMENT CONTROL
7 MONITOR SWITCH (MONITOR)
8 RECORDING INDICATOR LAMP (REC)
9 RECORDING INPUT LEVEL ADJUSTMENT CONTROL (WITH PRESET MECHANISM)
INPUT 1/LEFT
INPUT 2/PAN
INPUT 3/PAN
INPUT 4/RIGHT
MASTER VOLUME
10 BIAS ADJUSTMENT CONTROL (BIAS)
11 EQUALIZER ADJUSTMENT CONTROL (EQ)
12 INPUT SELECTOR (INPUTS 1 ~ 4)
PANPOT CONTROL (PAN)
MICROPHONE ATTENUATOR (MIC ATT)
13 LINE OUTPUT JACK (LINE OUTPUT)
14 MIXER OUTPUT JACKS (MIXER OUTPUT)
15 LINE INPUT JACKS (LINE INPUT)
16 EARTH TERMINAL
17 MICROPHONE INPUT JACK (MIC INPUT)
18 SOCKET FOR MECHANICAL SECTION (TRANSPORT)
19 PLUG FOR RECORDING AND ERASE HEADS (REC/ERASE HEADS)
20 SOCKET FOR PLAYBACK HEADS (P.B. HEADS)
21 EXTERNAL NR PROCESSOR JACKS AND SWITCH

III. MECHANISM ADJUSTMENT

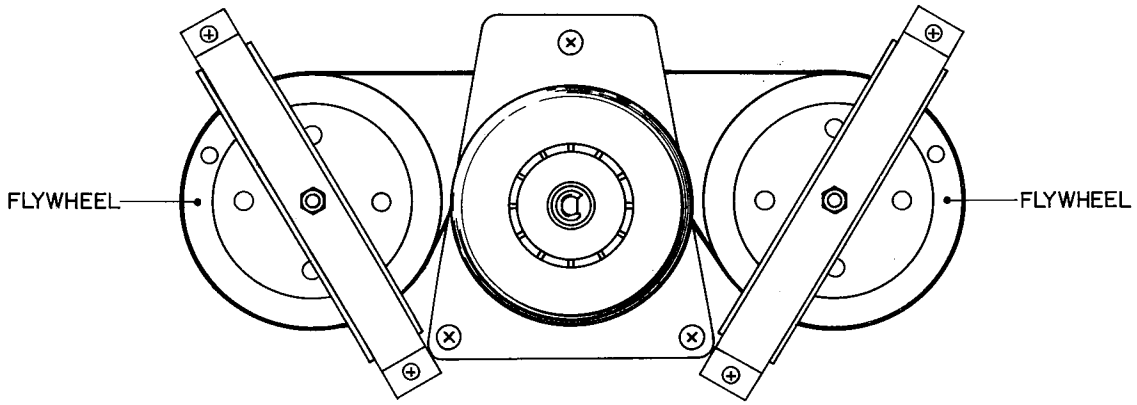


Fig. 1

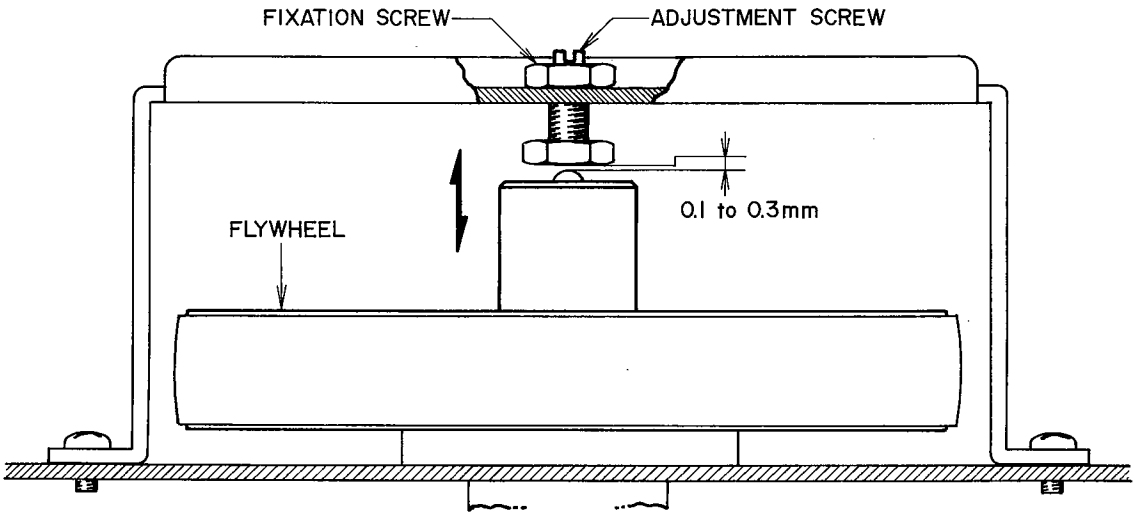


Fig. 2

1. FLYWHEEL THRUST LOOSE PLAY ADJUSTMENT

As shown in Fig. 2, move the flywheel in the direction of the arrow mark and arrange the bearings so that the flywheel has 0.1 – 0.3mm of thrust loose play. Then fix the bearings in place with the nut.

Caution When Replacing Flywheel

1) Each flywheel bears a letter of the alphabet. Make sure the new flywheel has the same letter as the old one.
2) Make sure you don't switch flywheels when replacing both at the same time.

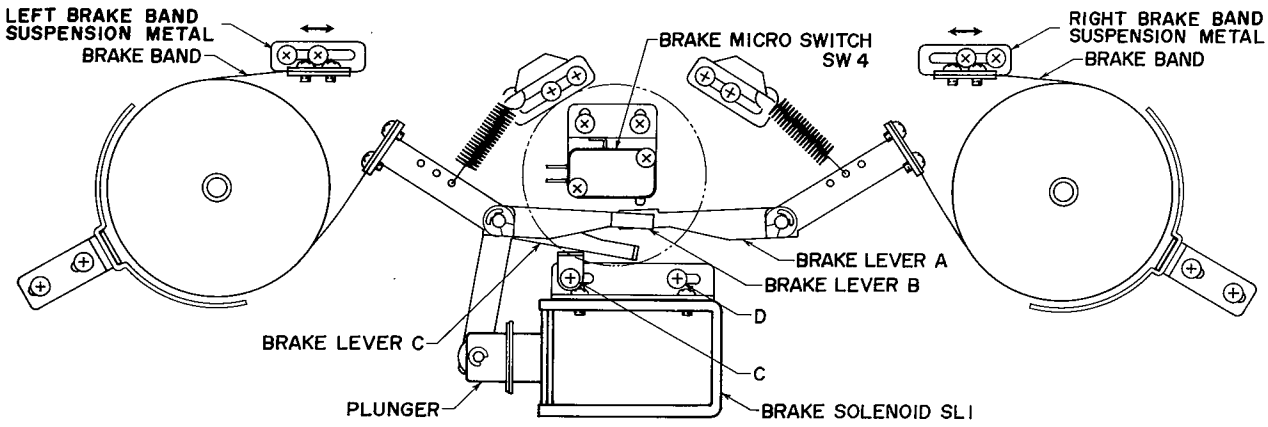


Fig. 3

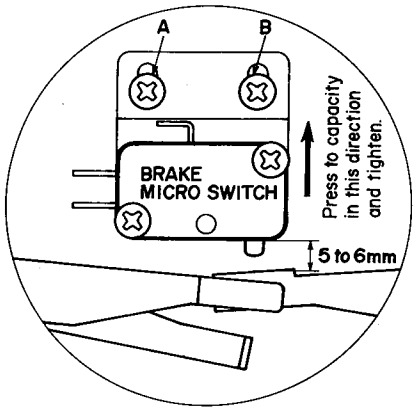


Fig. 4

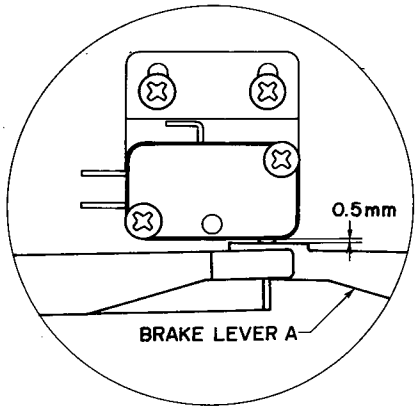


Fig. 5

2. BRAKE SOLENOID POSITION ADJUSTMENT

1) As indicated in Fig. 4, pull the brake micro switch above the mechanism frame and tighten screws A and B.
2) As in Fig. 3, move the right brake band suspension metal until a 5 – 6mm space between brake lever A and the body of the brake micro switch is attained. (Refer to Fig. 4.)
3) Move the left brake band support as indicated in Fig. 3 so that brake levers B and A can be simultaneously operated by brake lever C.
4) As illustrated in Fig. 5, tighten brake solenoid fixing screws C and D so that there is a minimum of 0.5mm between brake lever A and the body of the brake micro switch when the plunger is pulled.

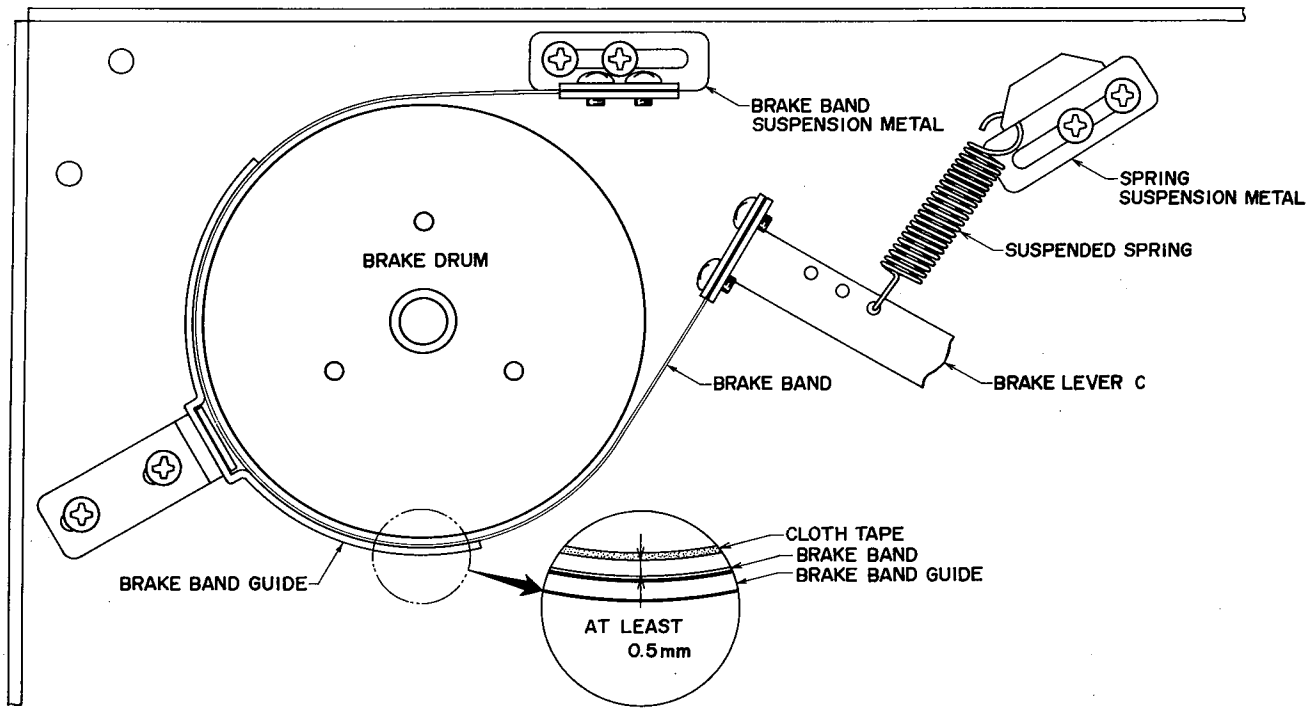


Fig. 6

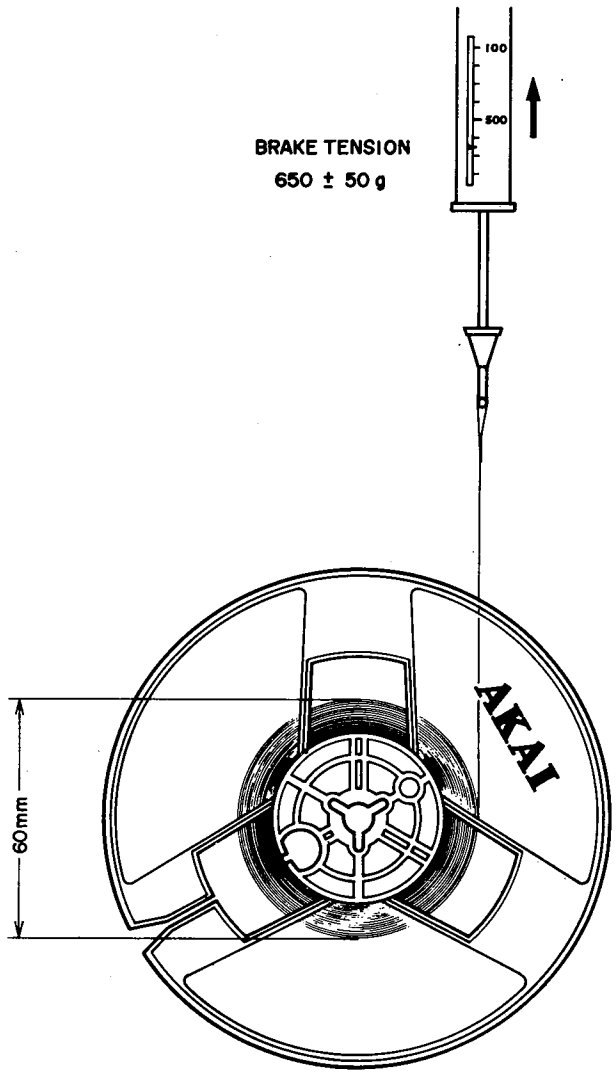


Fig. 7

3. BRAKE TENSION ADJUSTMENT

1) Brake tension is adjusted using a 5-inch reel to take up 60mm-diameter tape. Measure the tension with a spring scale. Best brake tension is 650 ± 50g. The difference between both sides should stay within 50g. (Refer to Fig. 7.)
2) Here are the ways to adjust brake tension (Refer to Fig. 6).
   a. Change the position of the suspension spring.
   b. Adjust the position of the suspension spring metal.

Note: After adjusting brake tension, make sure the brake band completely separates from the cross tape of the brake drum by more than 0.5mm for each mode except STOP (Refer to Fig. 6).

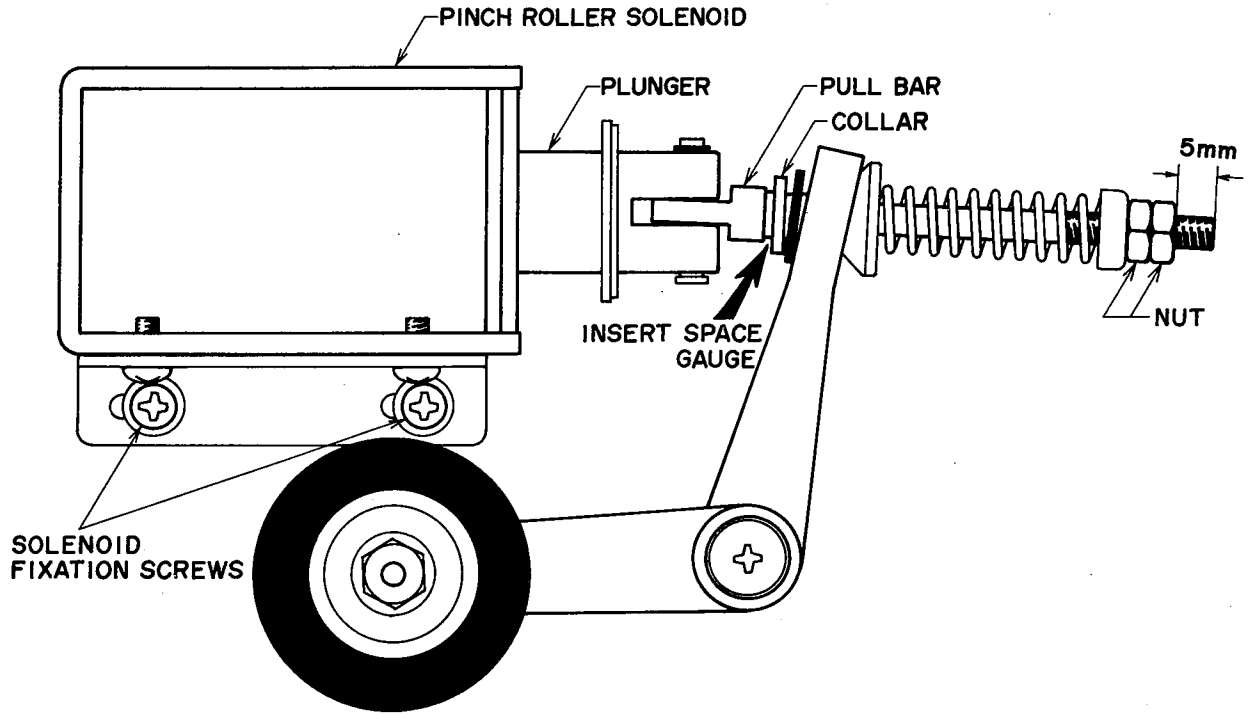
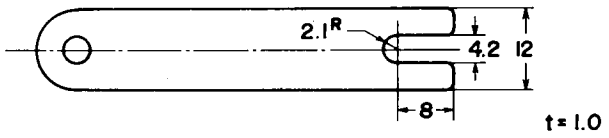


Fig. 8



SPACE GAUGE DIMENSIONS

Fig. 9

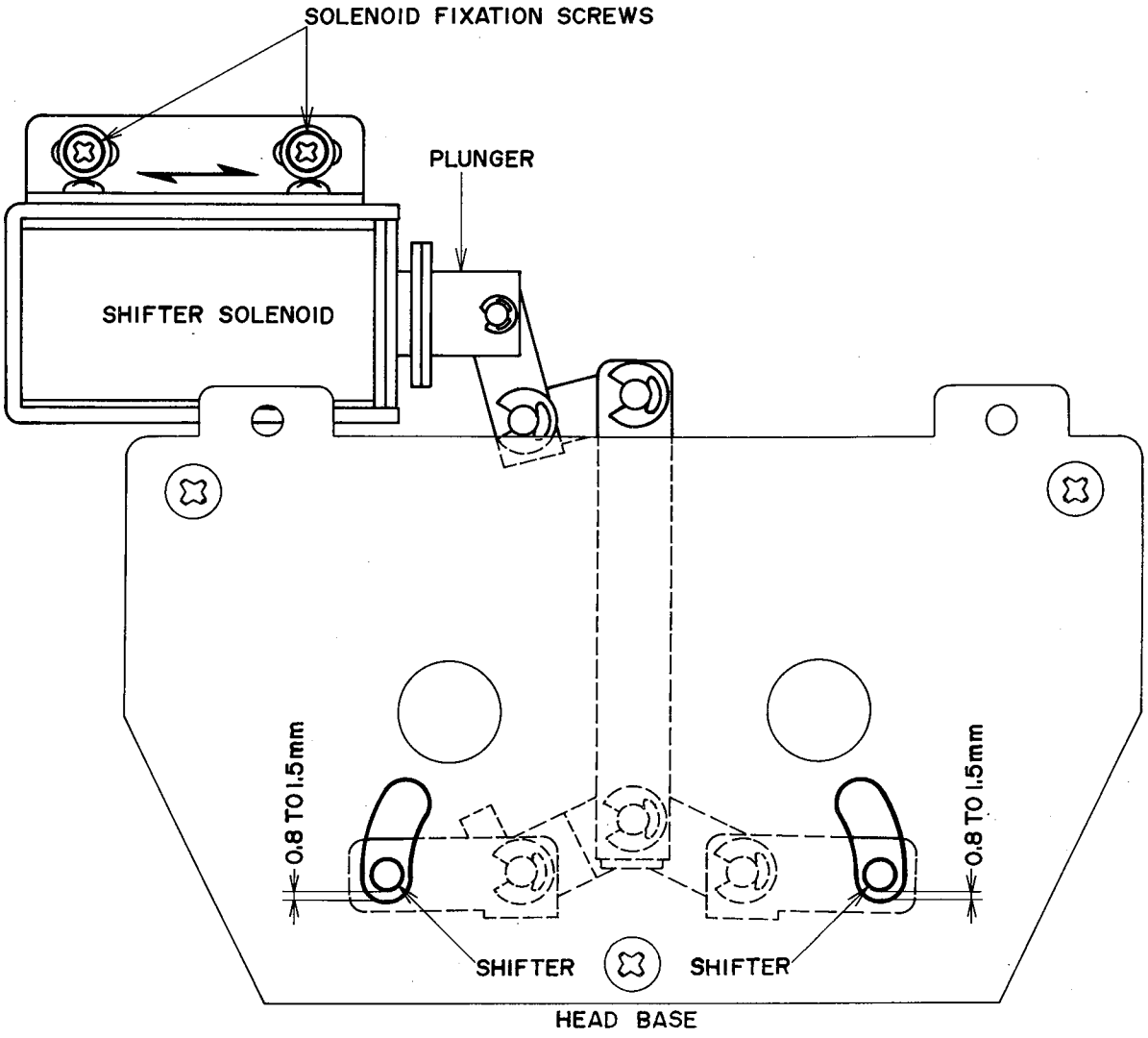


Fig. 10

4. PINCH ROLLER SOLENOID POSITION ADJUSTMENT

Set the nut so that the head of the pullbar screw comes out 5mm from the nut. Insert the space gauge between the collar and pullbar as indicated in Fig. 8 (the size of the gauge is shown in Fig. 9). Fix the solenoid in place when the pinch roller touches the capstan and set both sides equally.

5. SHIFTER SOLENOID POSITION ADJUSTMENT (Refer to Fig. 10)

Adjust the position of the shifter solenoid so that there is a 0.8 – 1.5mm gap between the shifter and the oval hole on the head base when the plunger is pulled. The tape, however, should never touch the head.

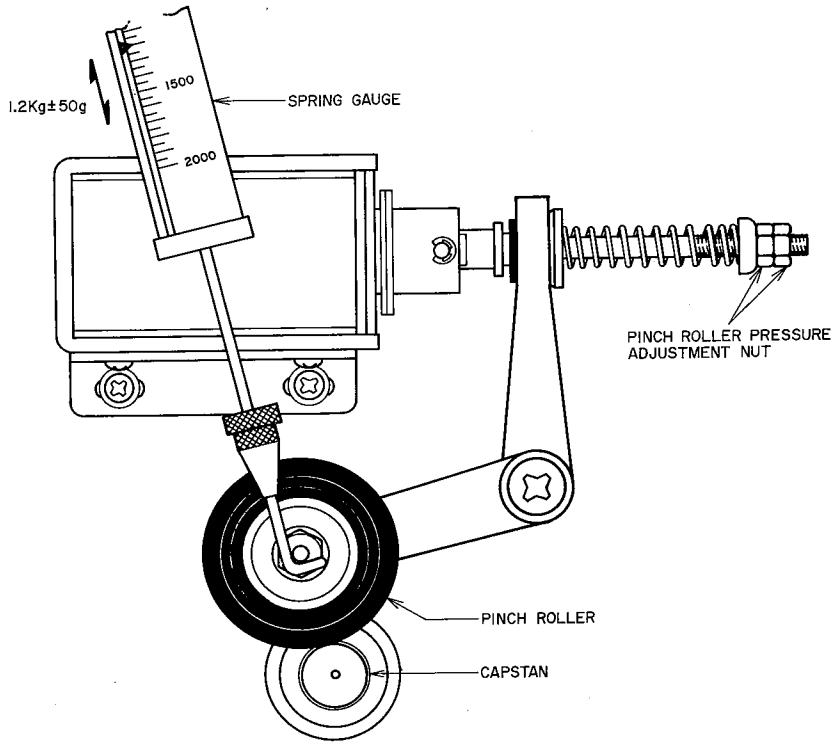


Fig. 11

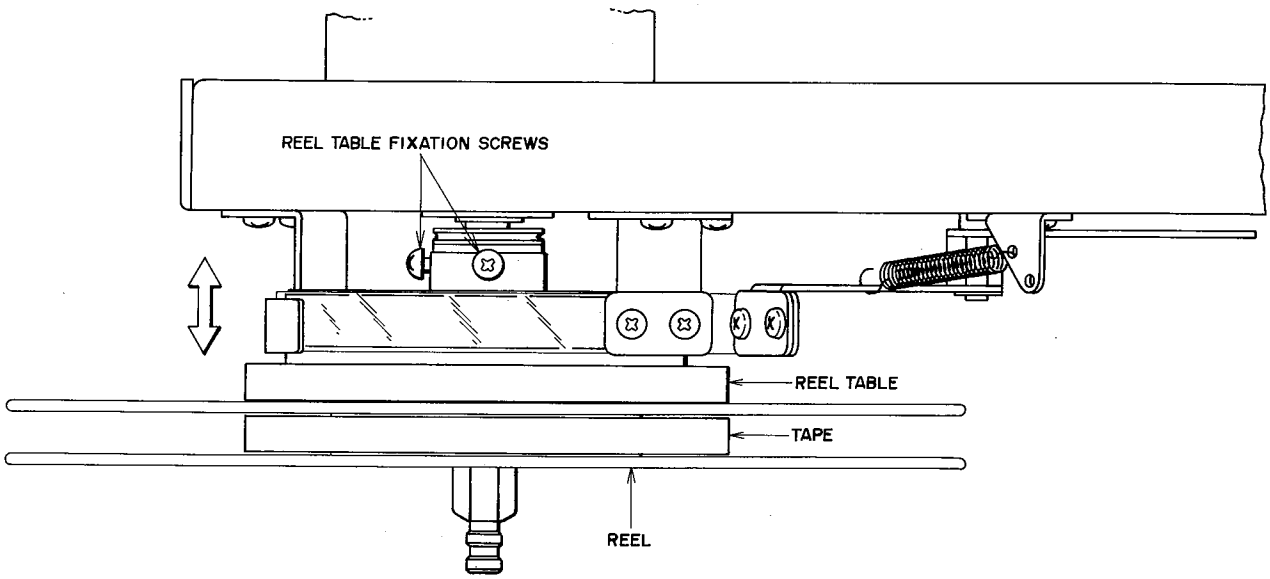


Fig. 12

6. PINCH ROLLER PRESSURE ADJUSTMENT (Refer to Fig. 11)

Using the spring scale, pull up the pinch roller, then return it. As the pinch roller touches the capstan during its return, read the indication on the spring scale. At this time, adjust the pinch roller pressure nut so that the spring scale indicates 1.2kg ± 50g.

Note: Because this is a dual capstan system, the difference in pinch roller pressure between both sides should be within 50g.

7. REEL TABLE HEIGHT ADJUSTMENT (Refer to Fig. 12)

Place the tape on both the left and right reel tables (but not on either tape guide nor on the tension lever). Set the machine on either F.F. or Rew. and adjust the reel table in the direction of the arrow mark so that the tape is taken up in the center of the reel. Tighten the reel table fixing screw at the best position.

Note: No matter what type of reel, the tape should always be taken up in the center.

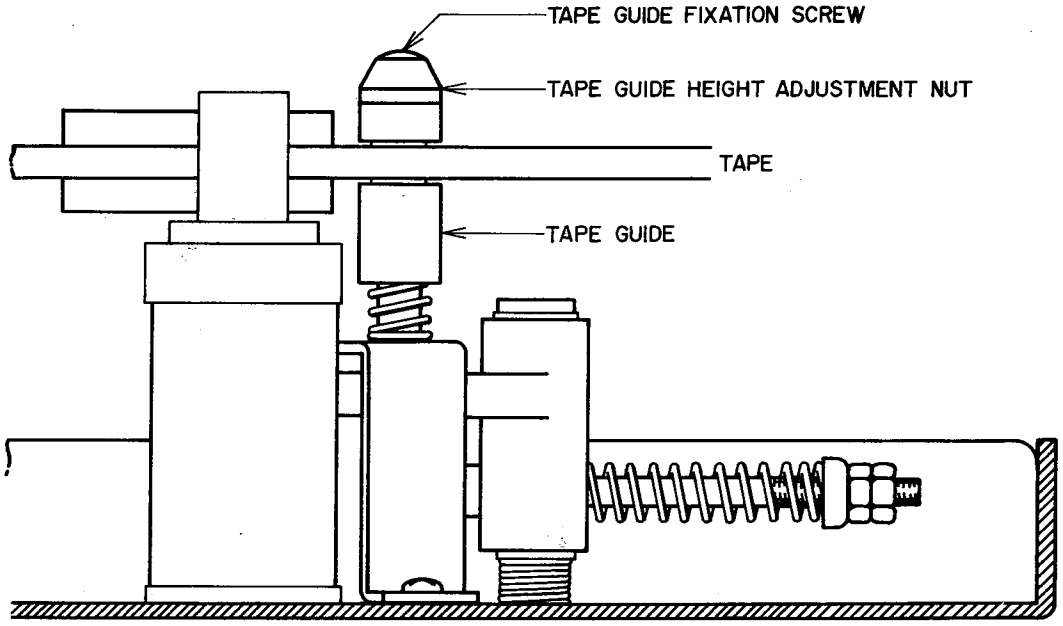


Fig. 13

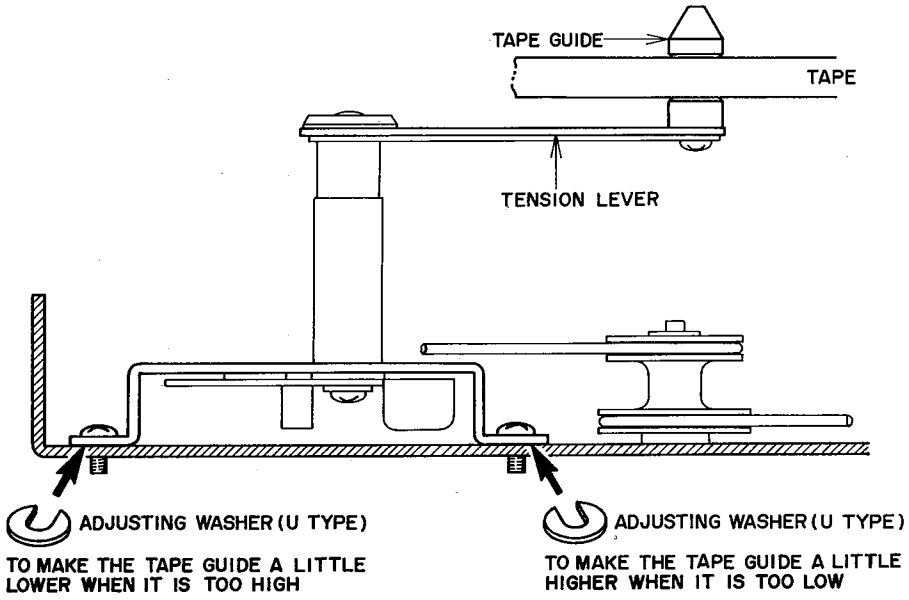

TAPE GUIDE
TAPE
TENSION LEVER
ADJUSTING WASHER (U TYPE)
TO MAKE THE TAPE GUIDE A LITTLE LOWER WHEN IT IS TOO HIGH
ADJUSTING WASHER (U TYPE)
TO MAKE THE TAPE GUIDE A LITTLE HIGHER WHEN IT IS TOO LOW

Fig. 14

8. TAPE GUIDE HEIGHT ADJUSTMENT (Refer to Fig. 13)

Place the tape just before the left and right tape guides (but not on either tension lever). Unscrew the tape guide fixing screw and adjust the tape guide height nut so that the tape travels in the center of the guide during FWD. and REV. Tighten the tape guide fixing screw to its normal position.

9. TENSION LEVER HEIGHT ADJUSTMENT (Refer to Fig. 14)

Place the tape on the left and right tension levers (at this time, the tape should be in its proper position on the tape guides). Insert the adjust washer (U type) to adjust the height of the tension lever so that the tape travels in the center of the tape guide during FWD. and REW.

Note: Fig. 14 shows the right-hand tape guide. When adjusting the opposite one, the left screw raises it while the right screw lowers it.

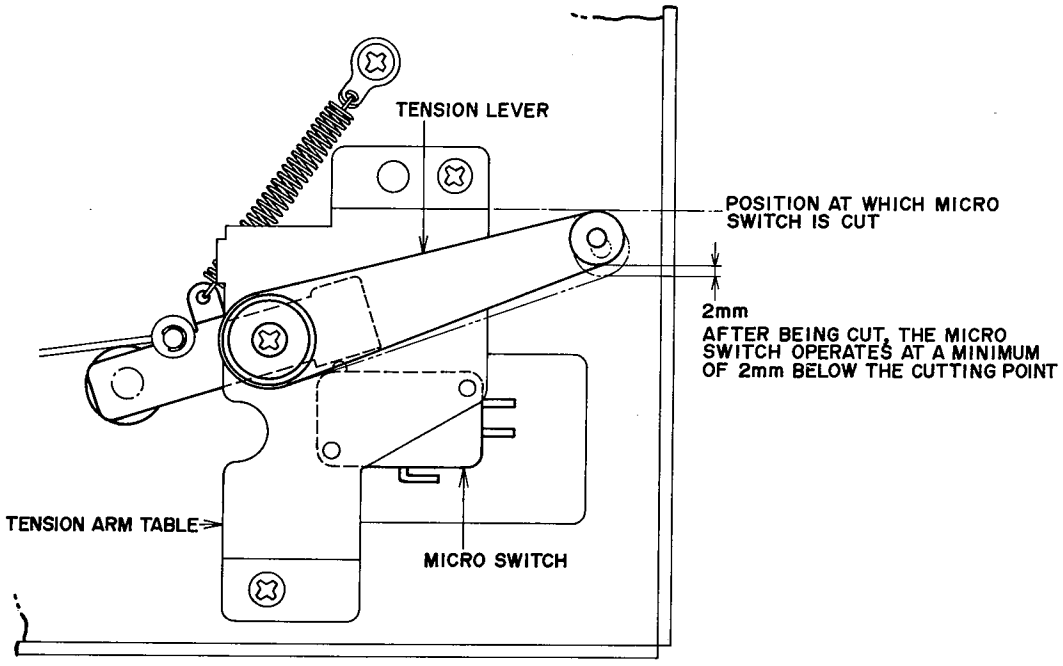

TENSION LEVER
POSITION AT WHICH MICRO SWITCH IS CUT
2mm
AFTER BEING CUT, THE MICRO SWITCH OPERATES AT A MINIMUM OF 2mm BELOW THE CUTTING POINT
TENSION ARM TABLE
MICRO SWITCH

Fig. 15

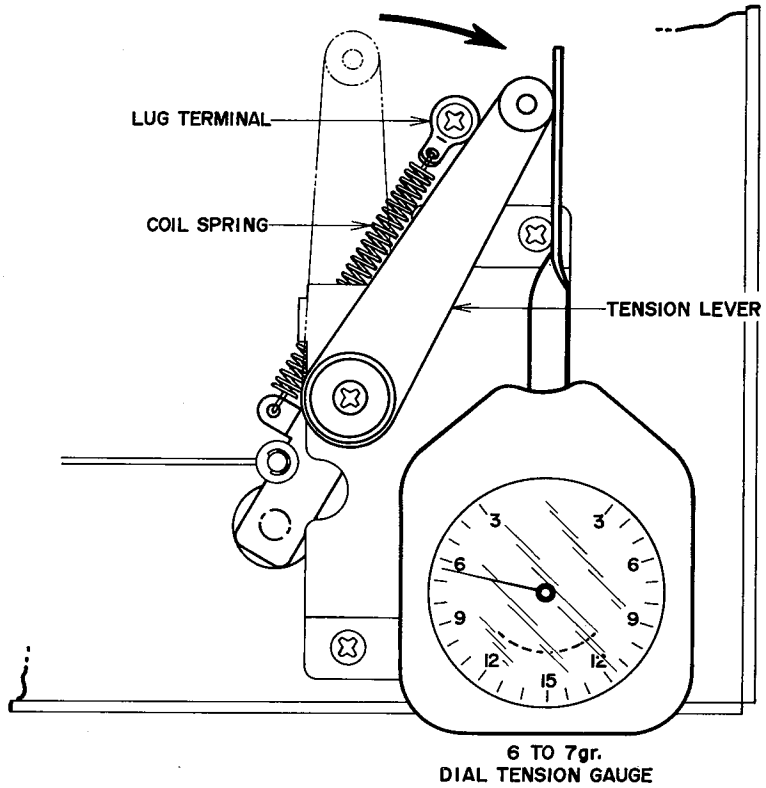


Fig. 16

10. CONFIRMATION OF BOTH TENSION ARMS OPERATION

Confirm the operation of each micro switch as illustrated in Fig. 15.

11. TENSION ARM'S RETURN TENSION ADJUSTMENT (Refer to Fig. 16)

Bend the lug terminal so that the dial gauge indicates 6 to 7g when the tension arm is returned in the direction of the arrow, mark. This adjusts the strength of the coil spring.

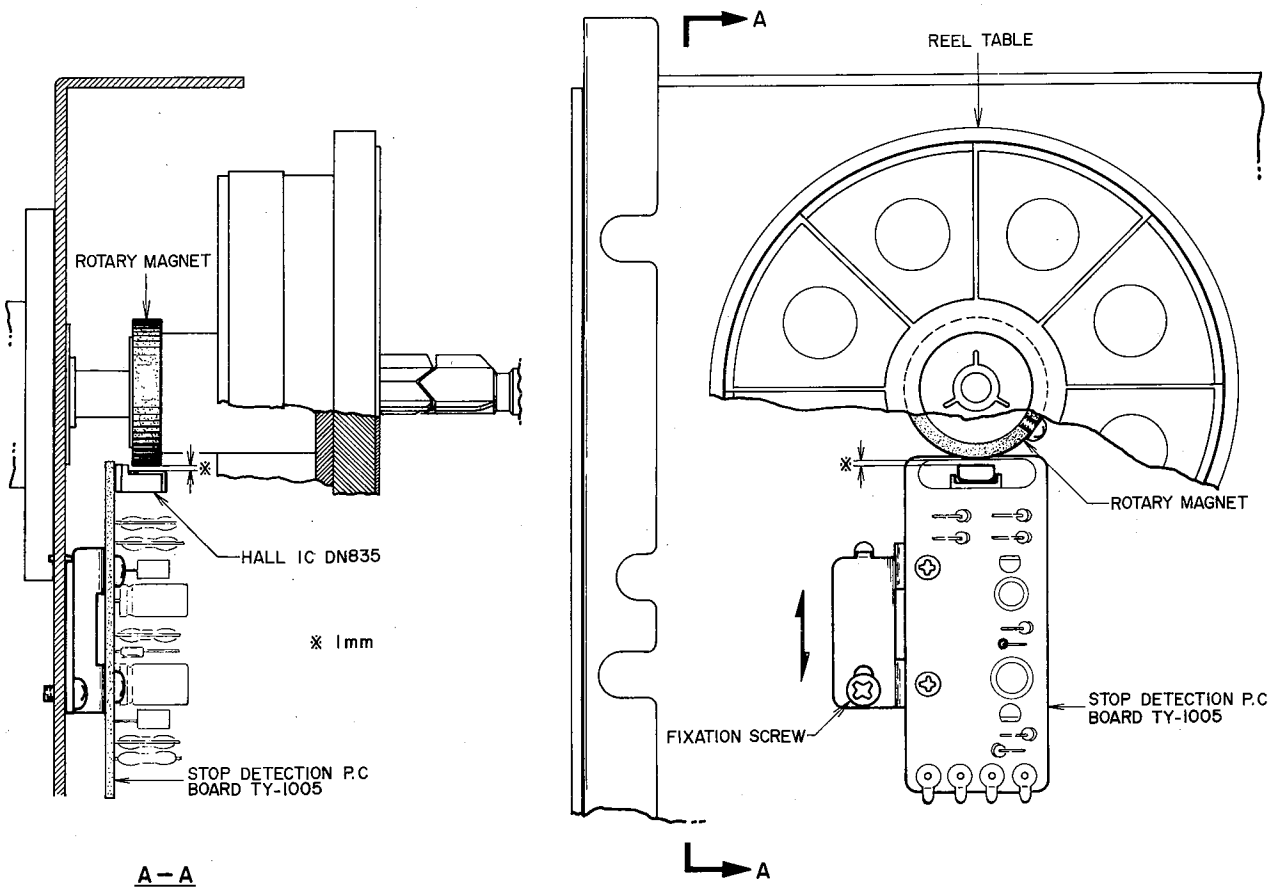


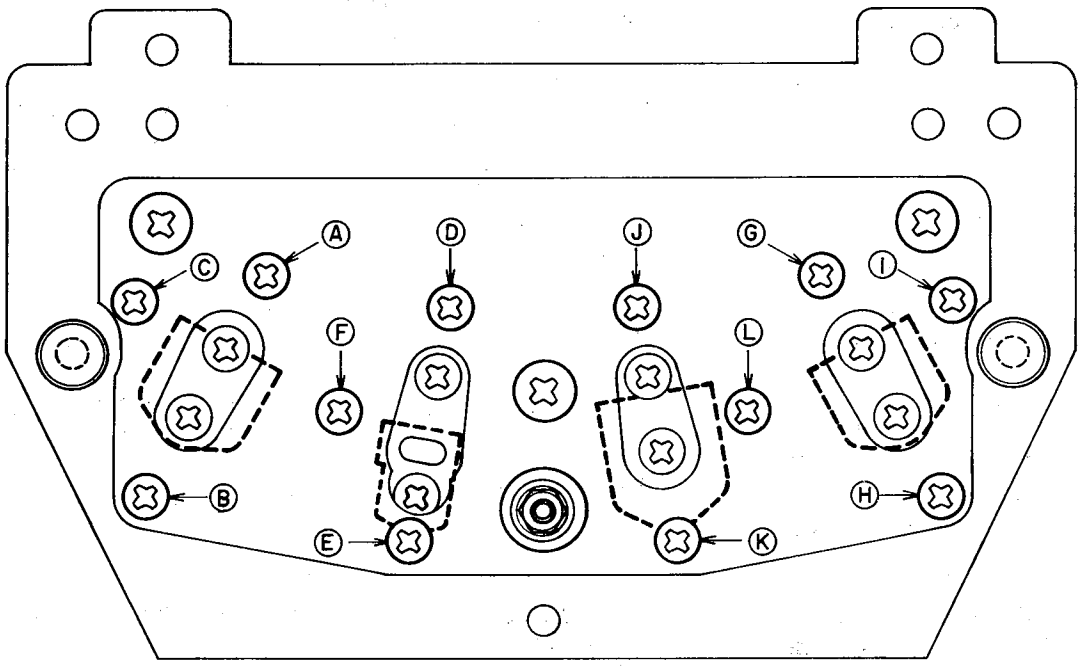
Fig. 17

12. GAP ADJUSTMENT OF HOLE IC (DN 835) AND ROTATION MAGNET

(Refer to Fig. 17)

Move the stop detector plate in the direction of the arrow until there is a 1mm gap between the hole IC and rotation magnet.

IV. HEAD ADJUSTMENT



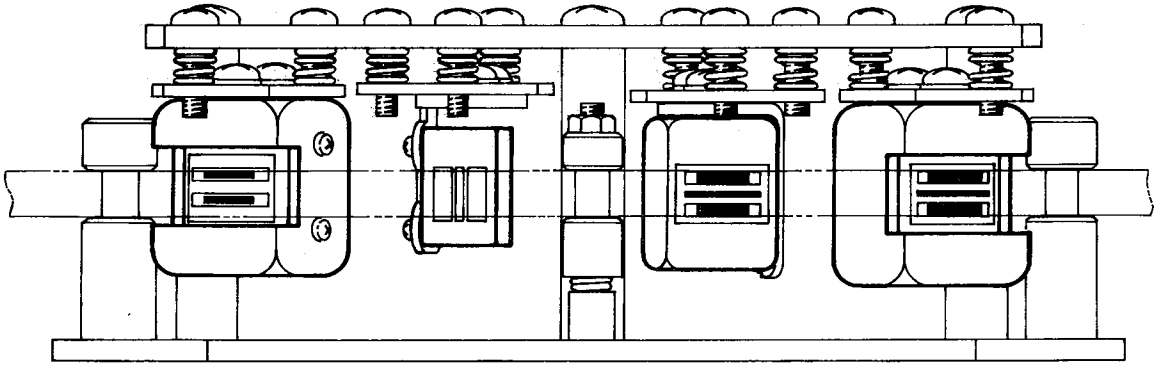


Fig. 18

Step	Adjustment Item	Test Tape or Supply Signal	Mode	Adjustment Point	Remarks
1.	Height of 4-Track Playback Head	Optional	Play	(A) (B) (C)	Make upper edge of Channel 1 head core even with upper edge of tape.
2.	Height of Full-Track Erase Head	Optional	Play	(D) (E) (F)	Set so that equal portions of head core are visible from top and bottom edge of tape.
3.	Height of Two-Track Recording Head	Optional	Play	(J) (K) (L)	Set upper edge of Channel 1 head core even with upper edge of tape.
4.	Height of Two-Track Playback Head	Optional	Play	(G) (H) (I)	Set upper edge of Channel 1 head core even with upper edge of tape.
5.	Azimuth Alignment of Four-Track Playback Head	15,000Hz/ 38cm/sec Test Tape	4-Track Play	(C)	Maximum Output of Both Channels
6.	Azimuth Alignment of Two-Track Recording Head	15,000Hz/ 38cm/sec Test Tape	2-Track Play	(I)	Maximum Output of Both Channels
7.	Azimuth Alignment of Two-Track Recording Head	15,000Hz −20dB Signal	2-Track Play	(L)	Maximum Output of Both Channels

V. AMPLIFIER ADJUSTMENT

VR1 1KB Supply Voltage Adj. 30.0V

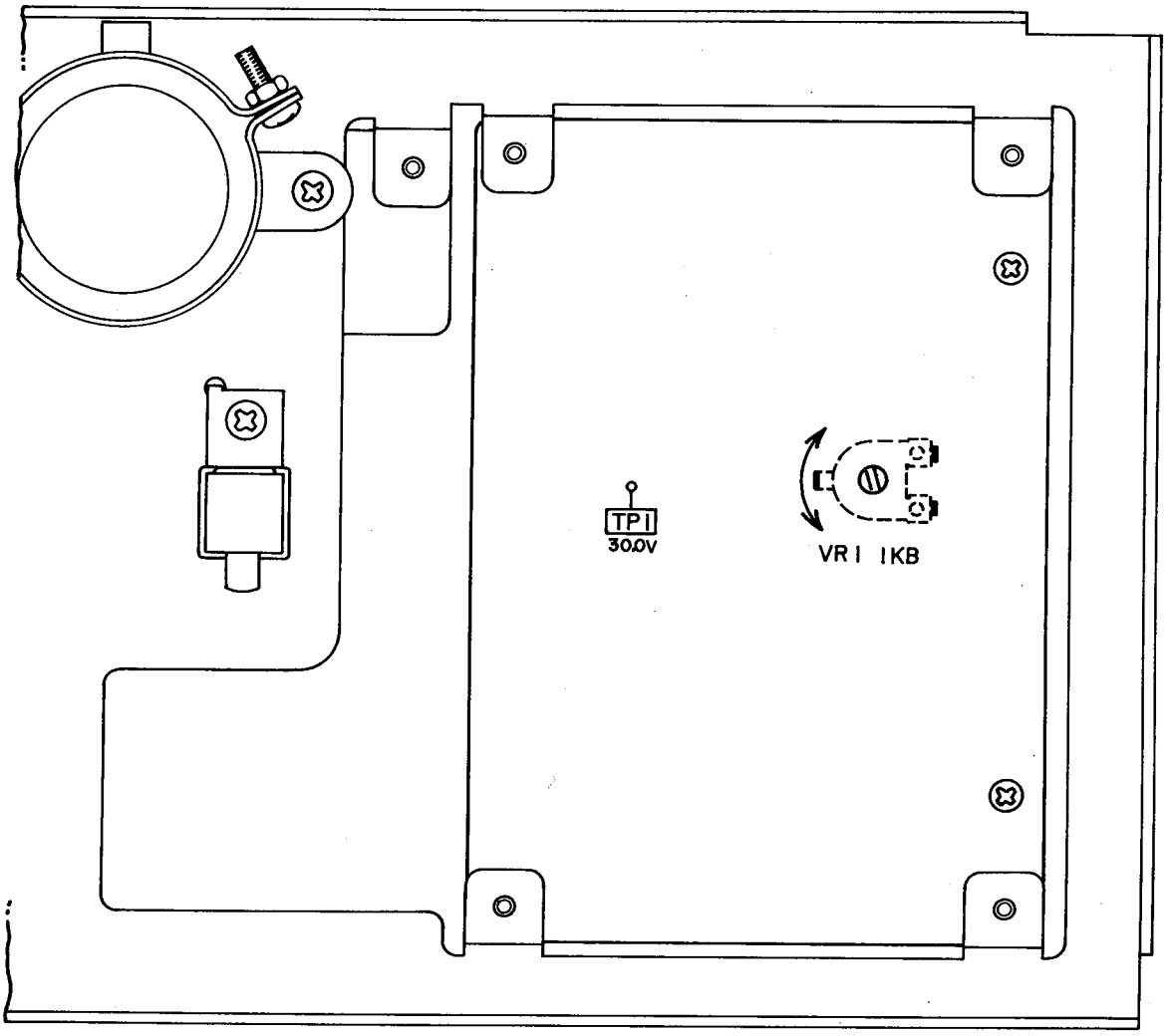


Fig. 19 Power Supply P.C Board TV-5020

1. POWER SUPPLY VOLTAGE ADJUSTMENT (Refer to Fig. 19)

Adjust the semi-fixed volume VR1 1KB so that the TP1 terminal becomes 30.0V.

VR1	1KB	Servo Circuit Voltage Adj.	21.0V
VR2	5KB	Tape Speed Adj.	38cm/sec
VR3	10KB	Tape speed Adj.	19cm/sec
VR4	30KB	Tape Speed Adj.	9.5cm/sec

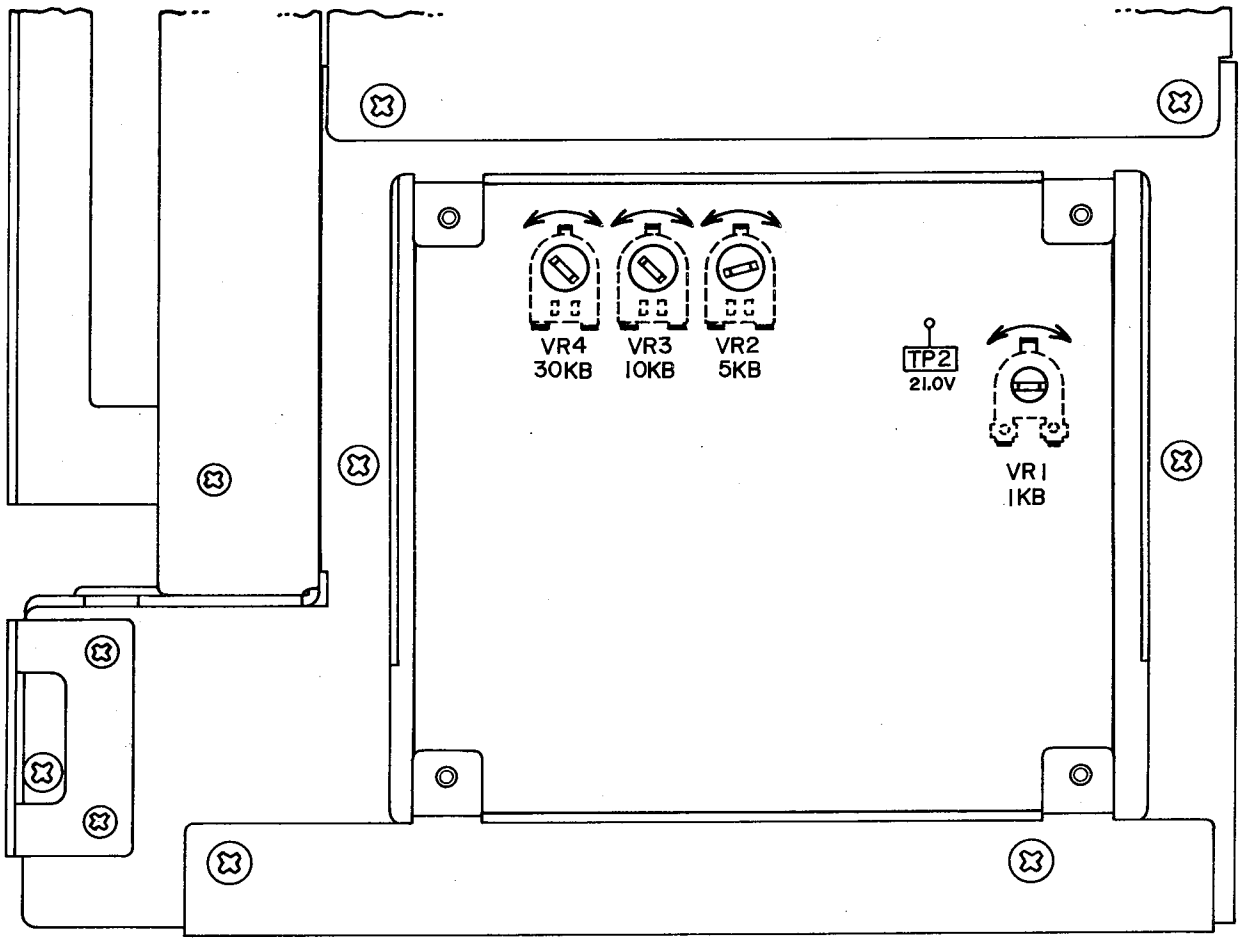


Fig. 20 Servo P.C Board TW-1049 (5ED)

2. SERVO CIRCUIT VOLTAGE ADJUSTMENT (Refer to Fig. 20)

Adjust the semi-fixed volume VR1 1KB so the TP2 terminal becomes 21.0V.

3. TAPE SPEED ADJUSTMENT (Refer to Fig. 20)

Playback the 1,000Hz/19cm/sec. tape speed adjustment tape and adjust each tape speed.

38cm/sec.	2,000Hz ±0.5%
19cm/sec.	1,000Hz ±0.5%
9.5cm/sec.	500Hz ±0.5%

4. PLAYBACK AND RECORDING AMPLIFIER ADJUSTMENT

Prior to adjustment, set each selector and control as follows.

1) PB Head (2-track, 4-track) → 2-track
2) Equalizer (38, 19, 9.5) → 38
3) Meter Selector (Bias Check, Peak, VU) → VU
4) Monitor (Tape, Source) → Tape
5) Playback Out → 0VU (Center)
6) Input 1, Input 4 → Optional
7) Input 2, Input 3 → Minimum
8) Master Volume → Maximum
9) Phone Level → Optional
10) Input 1, Input 4 Selector → Line
11) Input 2, Input 3 Selector → ATT (20dB)
12) Pan → Center
13) Bias, EQ → Center

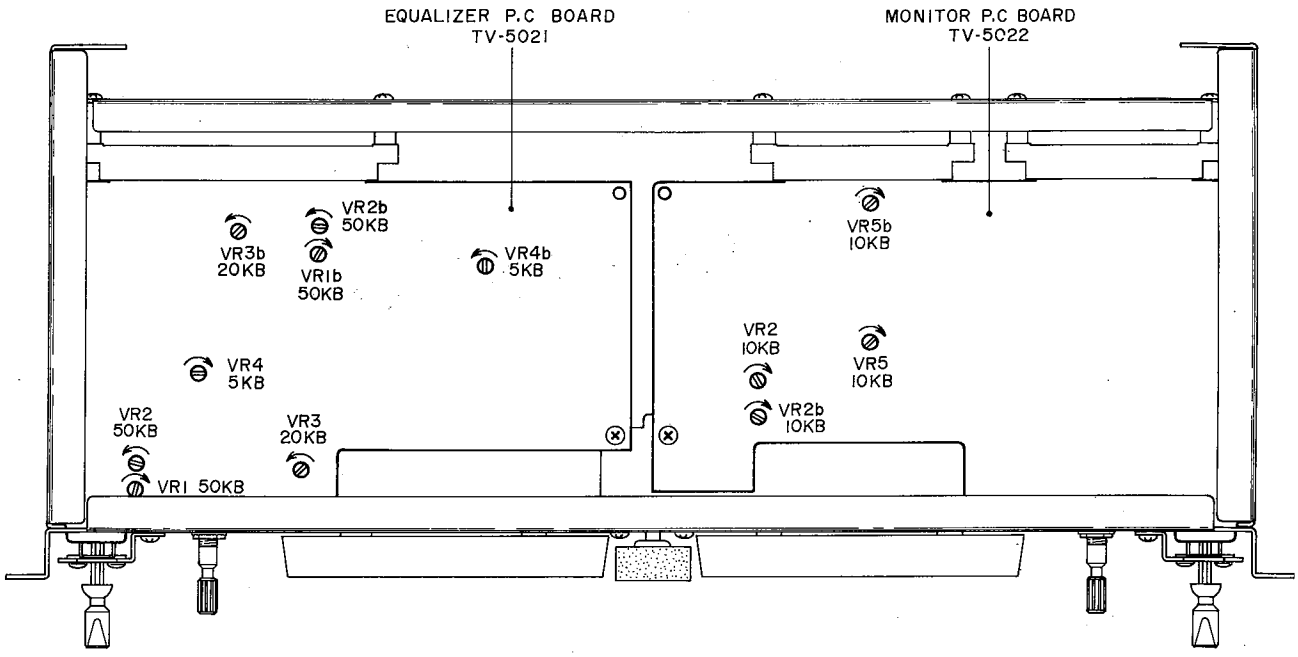


Fig. 21 Amp. Block Top View

Equalizer P.C Board TV-5021
- VR1 2-track PB Level Adj.
- VR2 4-track PB Level Adj.
- VR3 PB Equalizer Adj.
- VR4 ADR Adj.

Monitor P.C Board TV-5022
- VR2 Peak Meter Adj. (–10VU)
- VR5 Peak Meter Adj. (–30VU)

* Parts bearing the letter "b" after the semi-fixed volume part number are for the right channel.
  Example: VR1 50KB Left Channel
  VR2b 50KB Right Channel

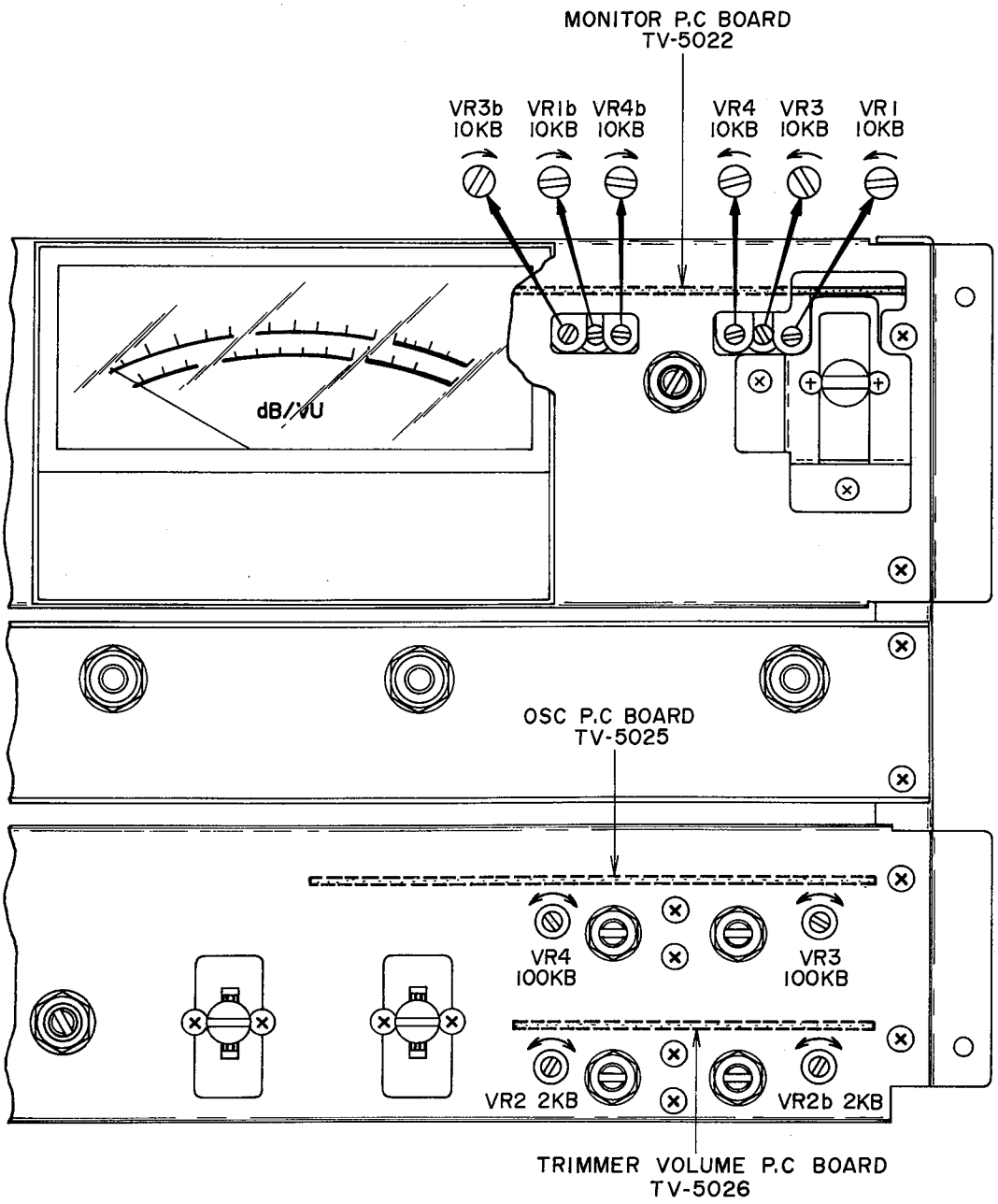


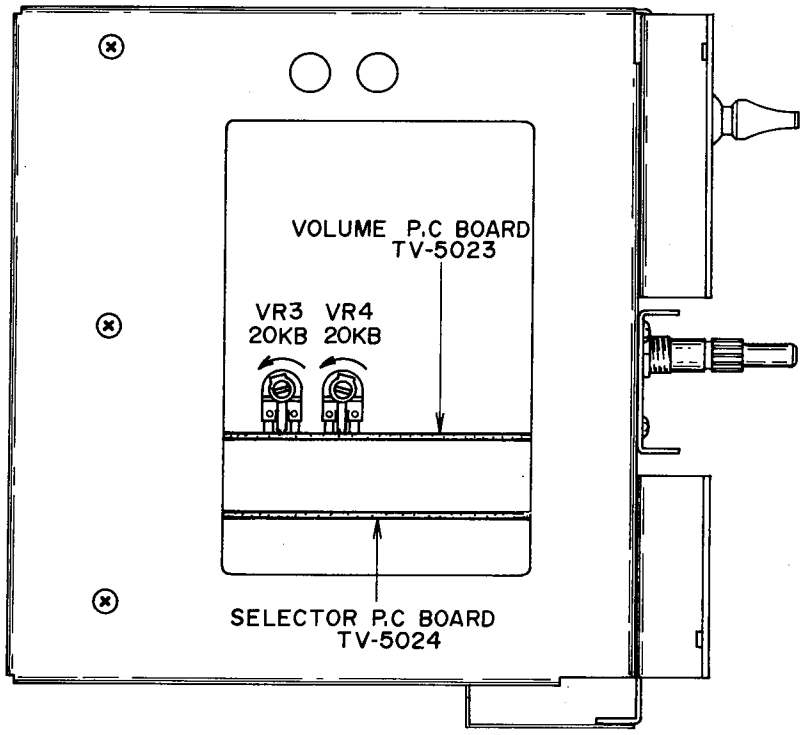
Fig. 22 Amp. Block Front View

Monitor P.C Board TV-5022
- VR1 Peak Meter Adj. (0 VU)
- VR3 VU Meter, 0 VU Adj.
- VR4 Bias Check, "0" Indication Adj.

Bias Oscillator P.C Board TV-5025
- VR3 Recording Bias Adj. (Right Channel)
- VR4 Recording Bias Adj. (Left Channel)

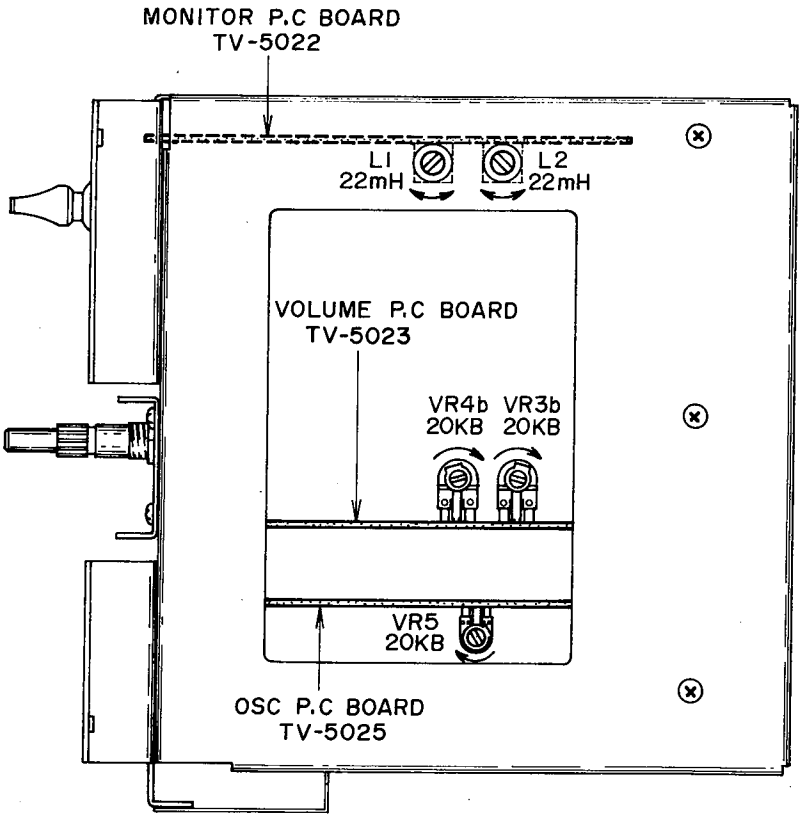
Trimmer Volume P.C Board TV-5026
- VR2 Recording Equalizer Adj.

* Parts bearing the letter "b" after the semi-fixed volume part number are for the right channel.
Example: VR1 10KB Left Channel
VR1b 10KB Right Channel



Volume P.C Board TV-5023
VR3 Recording Level Adj.
VR4 Mixing Output Adj.

Fig. 23 Amp. Block Left Side View



Volume P.C Board TV-5023
VR3b Recording Level Adj. (Right Channel)
VR4b Mixing Output Adj. (Right Channel)

Bias Oscillator P.C Board TV-5025
VR5 Erase Current Adj.

Monitor P.C Board TV-5022
L1 Bias Leak Adj. (Left Channel)
L2 Bias Leak Adj. (Right Channel)

Fig. 24 Amp. Block Right Side View

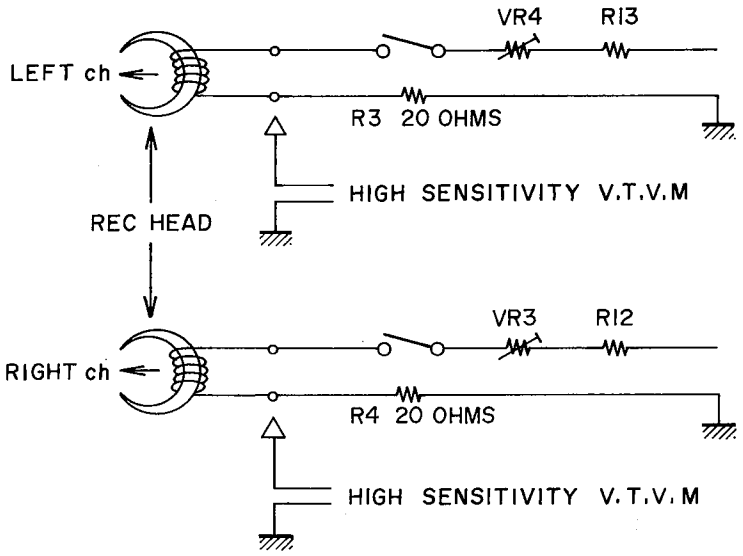


Fig. 25 ADR Test Terminal

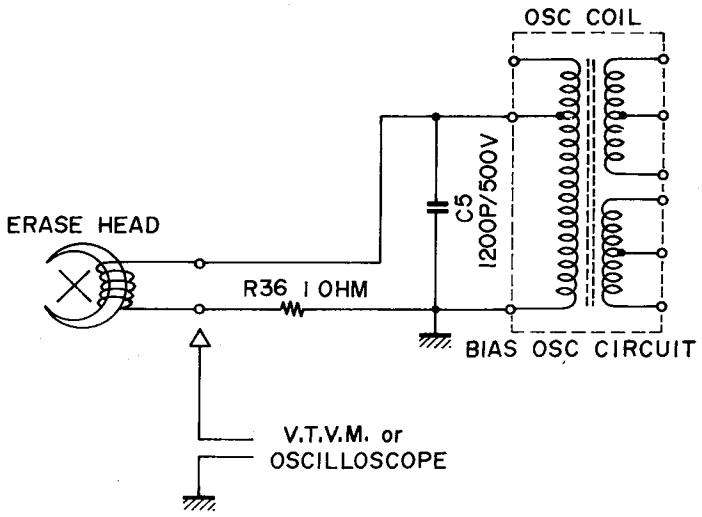


Fig. 26 Erase Current Test Terminal

* When using an AC voltmeter, use one with an input impedance of more than 10M OHMS and an input capacity of less than 25 PF.
Example: National VP-960A
If an oscilloscope is used, the peak figure will be indicated.

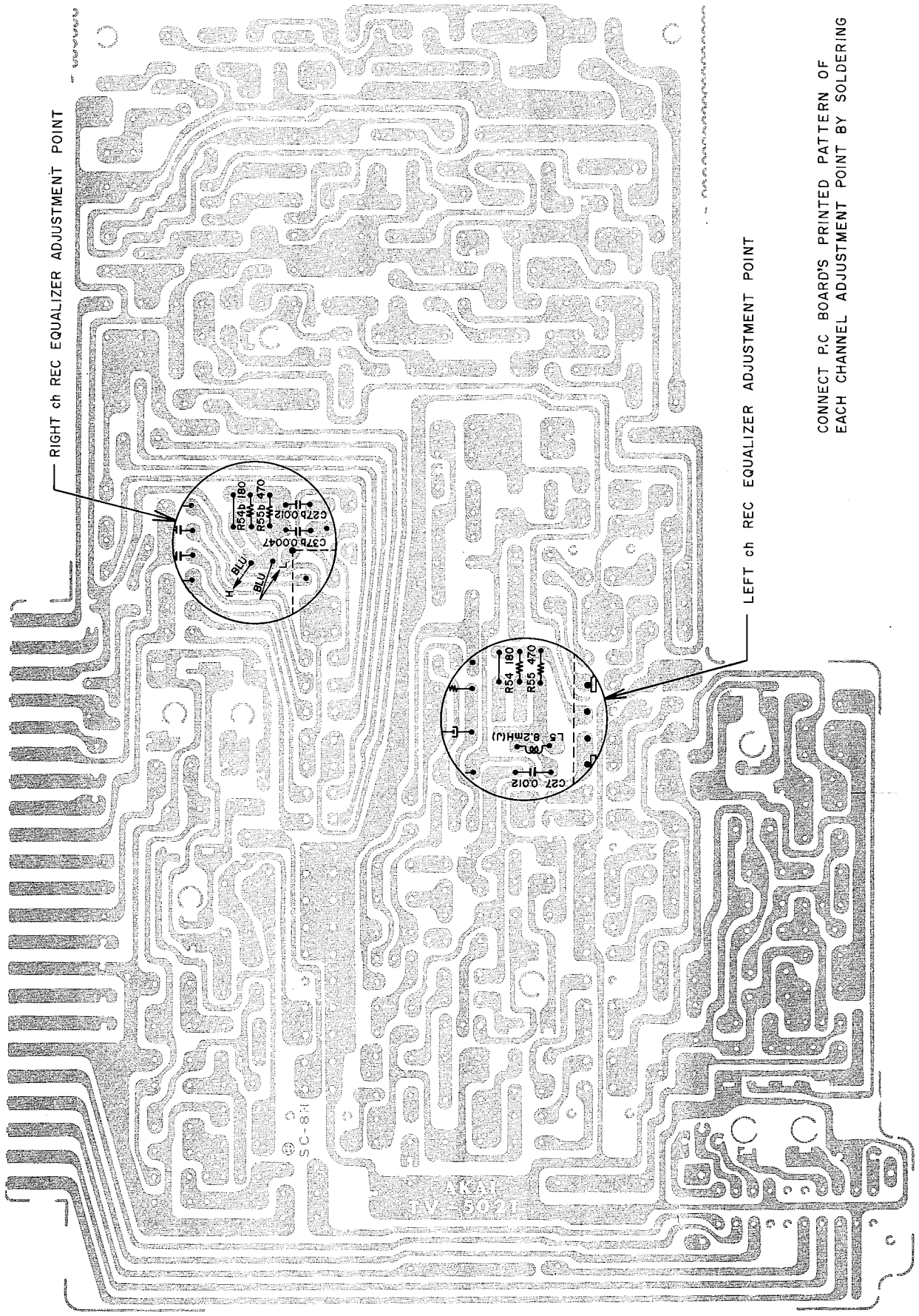


Fig. 27 Rec. Equalizer Peaking Adjustment (9.5cm/sec.)

Step	Adjustment Item	Test Tape/ Supply Signal	Mode	Adjustment Point	Result	Remarks	Reference Figure
1	2-Track Playback Level	700Hz/38cm/sec. 0 VU Tape	2-Track Play	VR 1 50KB EQ P.C Board	0dBs (0.775V)		Fig. 21
2	4-Track Playback Level	700Hz/38cm/sec 0 VU Tape	4-Track Play	VR2 50KB EQ P.C Board	0dBs (0.775V)		Fig. 21
3	Playback Equalizer	15,000Hz/38cm/ sec. 0 VU Tape	2-Track Play	VR 2 5KB EQ P.C Board	0dBs (0.775V)		Fig. 21
4	Mixing Level	1,000Hz line input, 0 dBs line output	Stop	VR 4 20KB Volume P.C Board	300 mV Mixing Output Terminal	Switch monitor switch to Source	Fig. 23,24
5	A. D. R.	1,500Hz, 15,000Hz line input, 0 dBs line output	REC	VR 3 20KB EQ P.C Board	7 dB above the 15,000Hz level	Tape Speed at 9.5cm/sec, monitor switch at source	Fig. 21,25
6	Erase Current		REC	VR 5 20KB OSC P.C Board	100mVrms 283mVP-P	Peak figure indication $= 100mV \times 2\sqrt{2}$	Fig. 24,26
7	REC Bias (Frequency Characteristics)	Scotch #206 Tape 2,000Hz, 20kHz −20 VU Recording	REC	VR 3 100KB VR 4 100KB OSC P.C Board	Flat Charac-teristics at 2,000Hz, 20kHz	Bias, Equalizer Adjustment Center Tape Speed at 19cm/sec refer to NOTE	Fig. 22
8	REC Level	Scotch #206 Tape 1,000Hz 0VU Recording	REC	VR 3 20KB Volume P.C Board	0dBs±0.7dB (0.775V)	Tape Speed at 19cm/sec	Fig. 23,24
9	Bias Check "0" Indication		REC	VR 4 10KB Monitor P.C Board	Needle "0" Indication	Performed after recording bias adjustment. Set the meter Selector at bias Check.	Fig. 22
10	VU Meter Indication	1,000Hz line input, 0dBs line output	Stop	VR 3 10KB Monitor P.C Board	0 VU	Monitor Switch at Source, Meter Selector at VU	Fig. 22
11	Peak Meter Indication	1,000Hz line input, 8dBs line output	Stop	VR 1 10KB Monitor P.C Board	0 VU	Monitor Switch at Source, Meter Selector at PEAK	Fig. 22
12		1,000Hz line input, −2dBs line output	Stop	VR 2 10KB Monitor P.C Board	−10VU		Fig. 21
13		1,000Hz line input, −22dB line output	Stop	VR 5 10KB Monitor P.C Board	−30VU		Fig. 21

Step	Adjustment Item	Test Tape/ Supply Signal	Mode	Adjustment Point	Result	Remarks	Reference Figure
14	Bias Leak		REC	L1 22mH Monitor P.C Board	less than −40dBs	Rec. volume 1 to 4: Minimum Master volume: Minimum, Monitor Switch at Source	Fig. 24

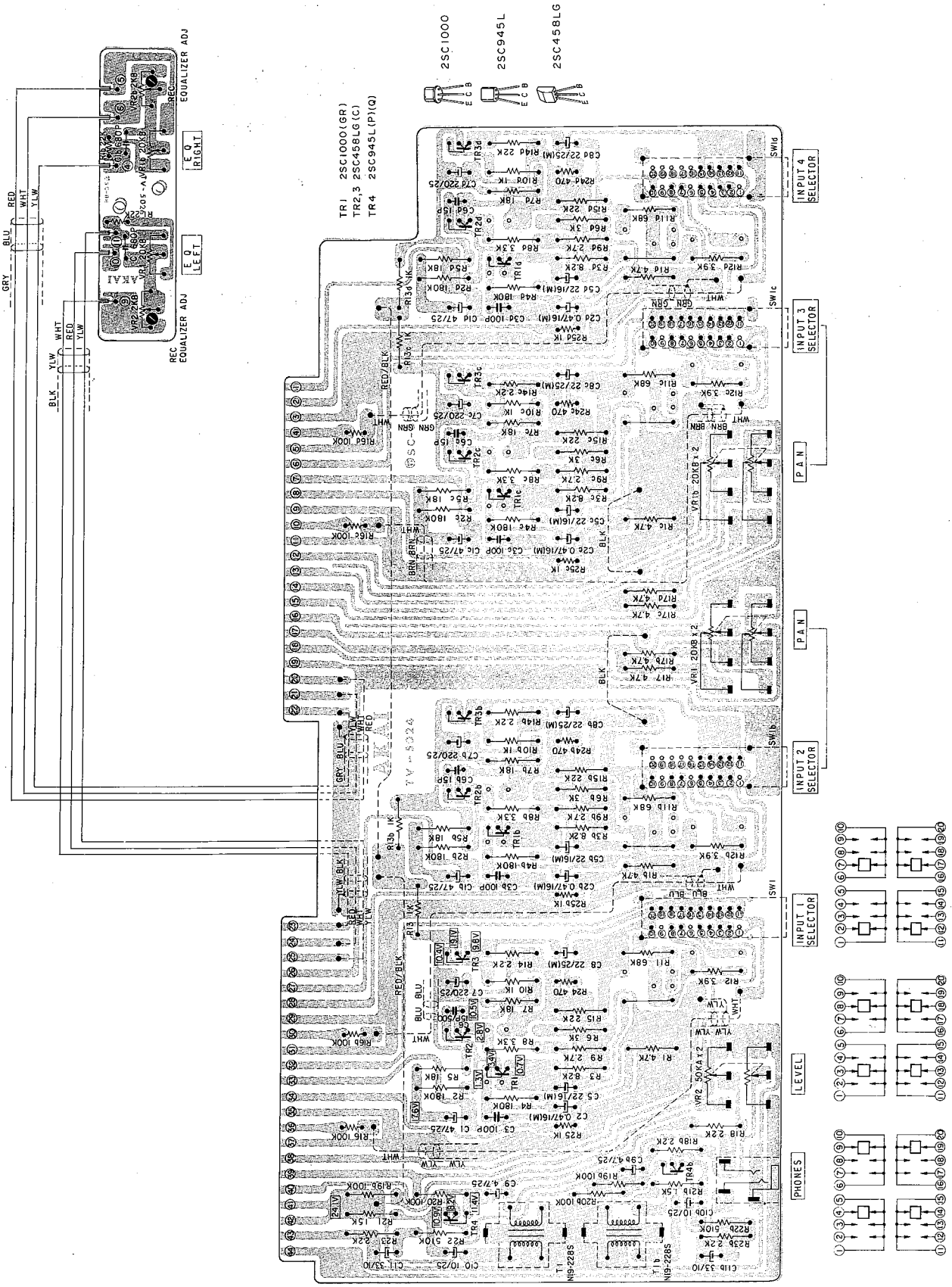
Note: After Rec bias adjustment, check the frequency characteristic of each tape speed.

38cm/sec 50 – 20,000Hz ± 1dB
19cm/sec 40 – 24,000Hz ± 3dB
9.5cm/sec 60 – 12,000Hz ± 3dB

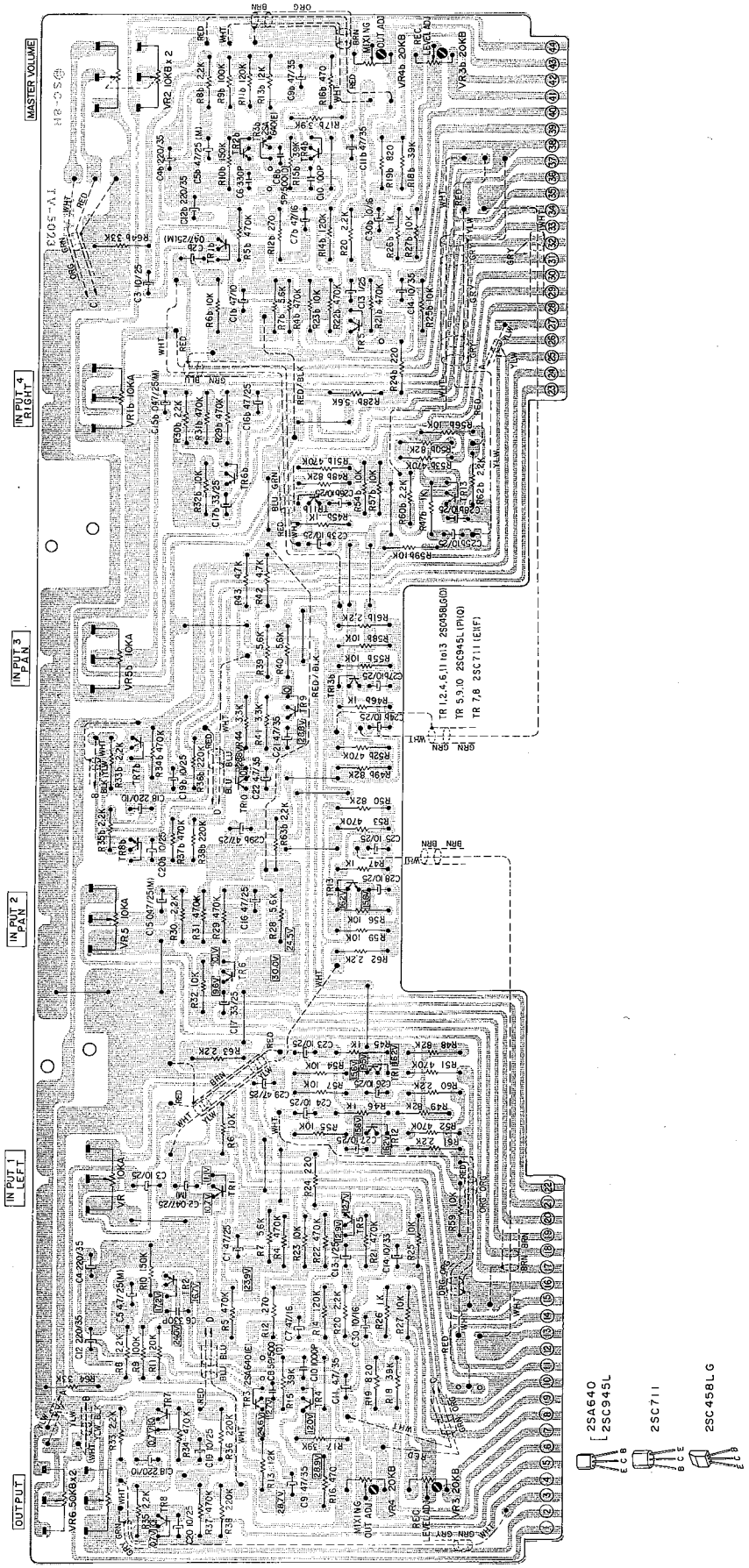
If the frequency characteristic at 9.5cm/sec is not up to standard, adjust the peak figure of the recording equalizer on the EQ P.C Board. (Refer to Fig. 27 Schematic Diagram)

VI. COMPOSITION OF VARIOUS P.C BOARDS

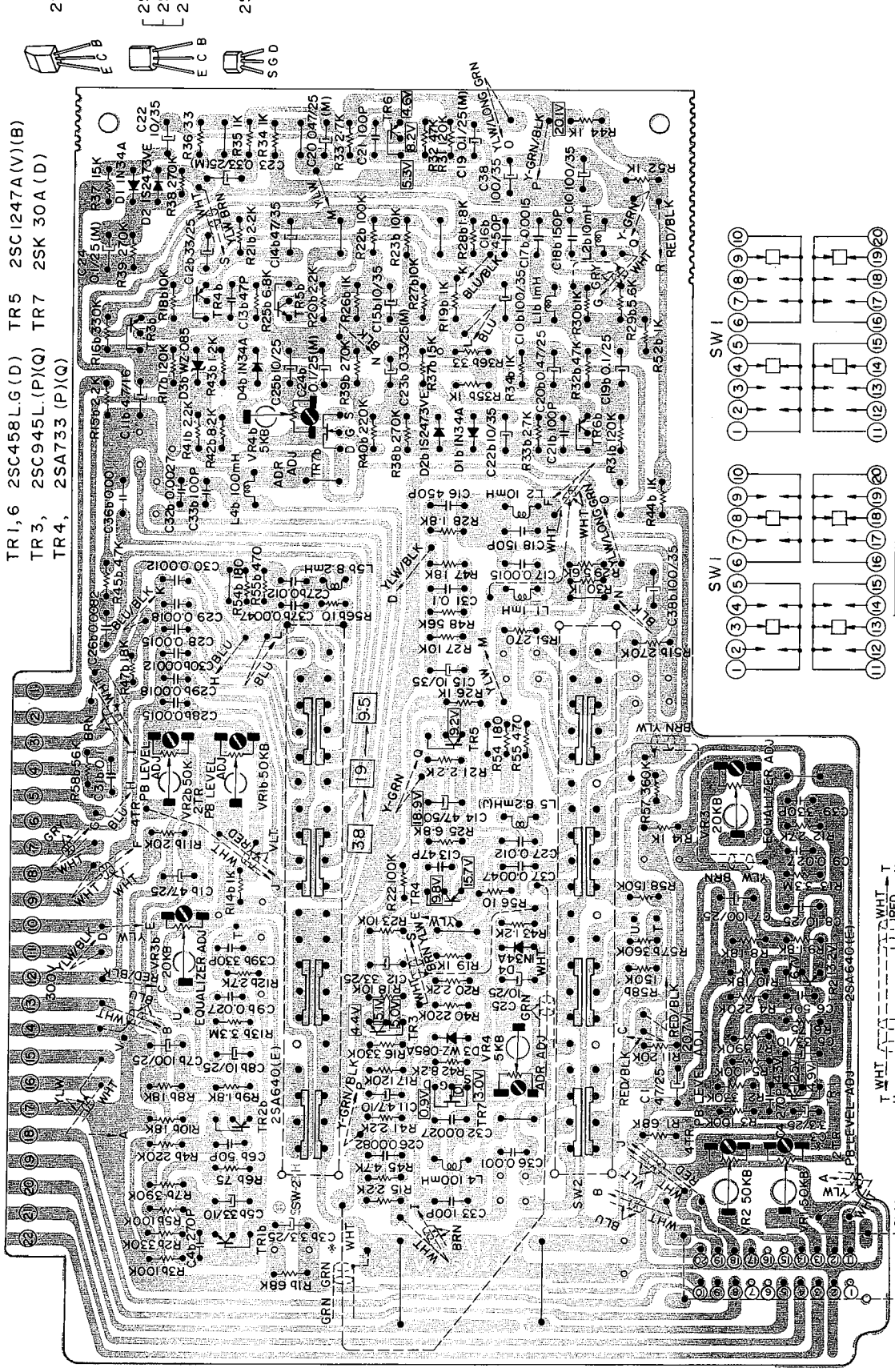
1. SELECTOR P.C BOARD TV-5024



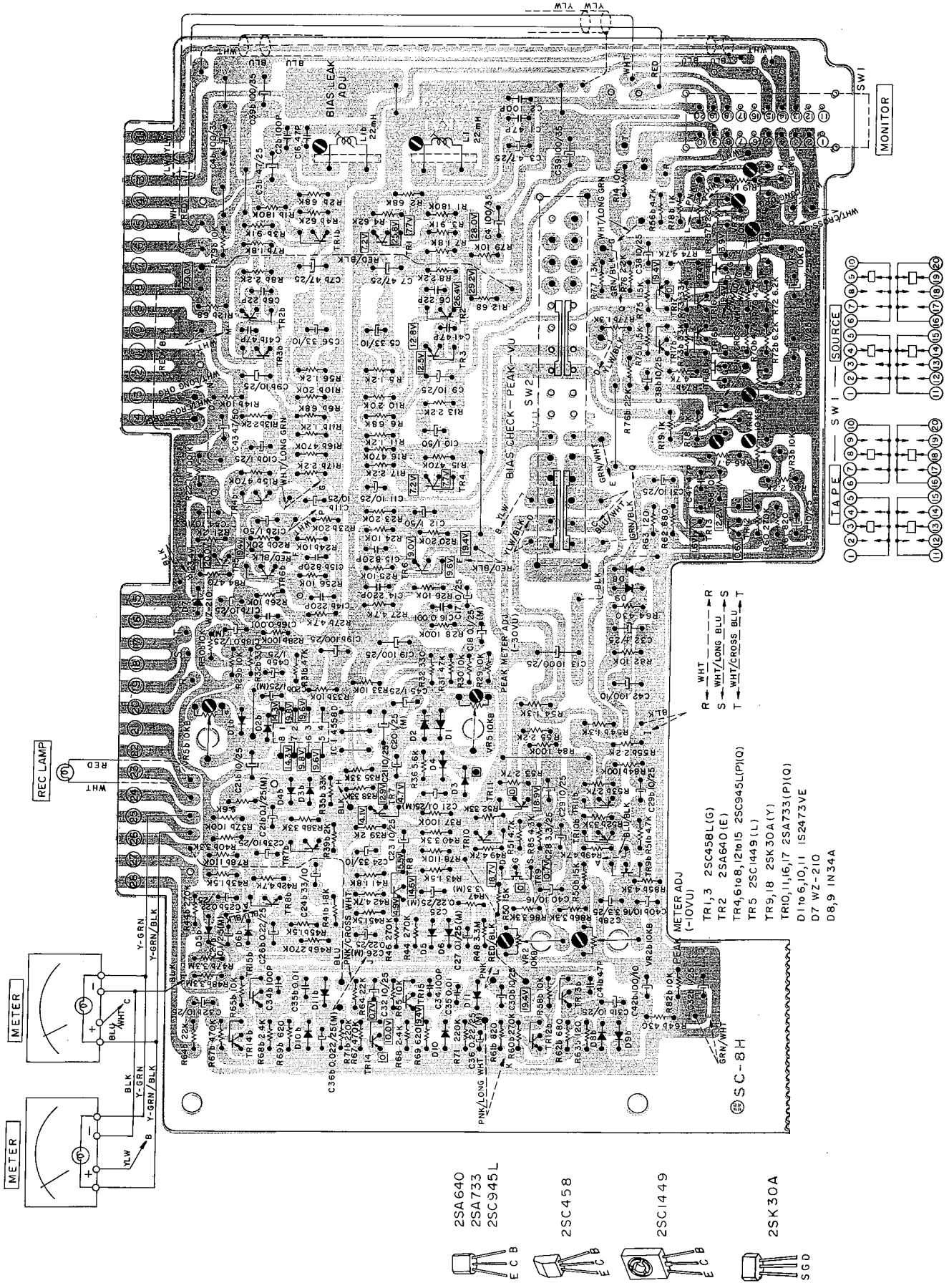
2. VOLUME P.C BOARD TV-5023



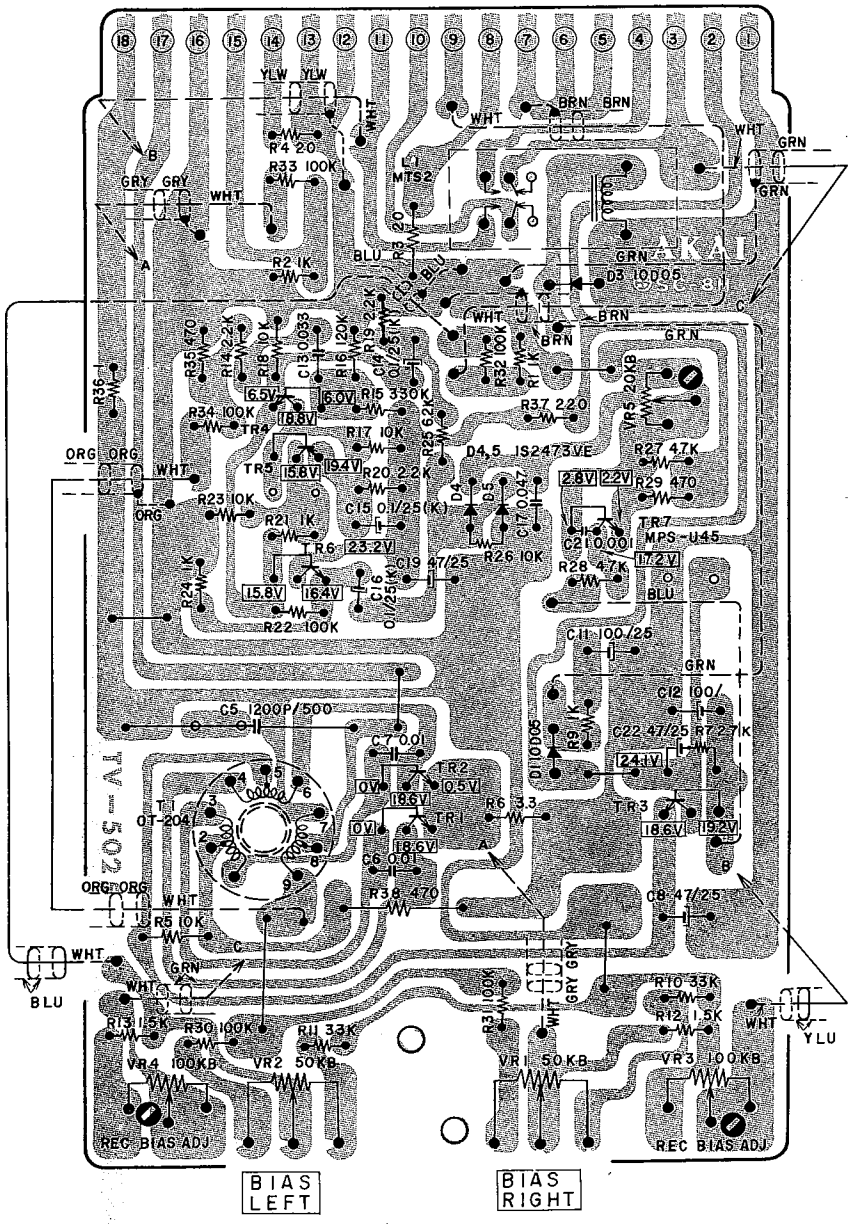
3. EQUALIZER P.C BOARD TV-5021



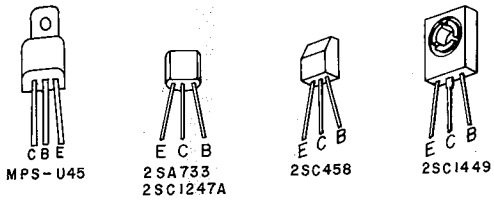
4. MONITOR P.C BOARD TV-5022



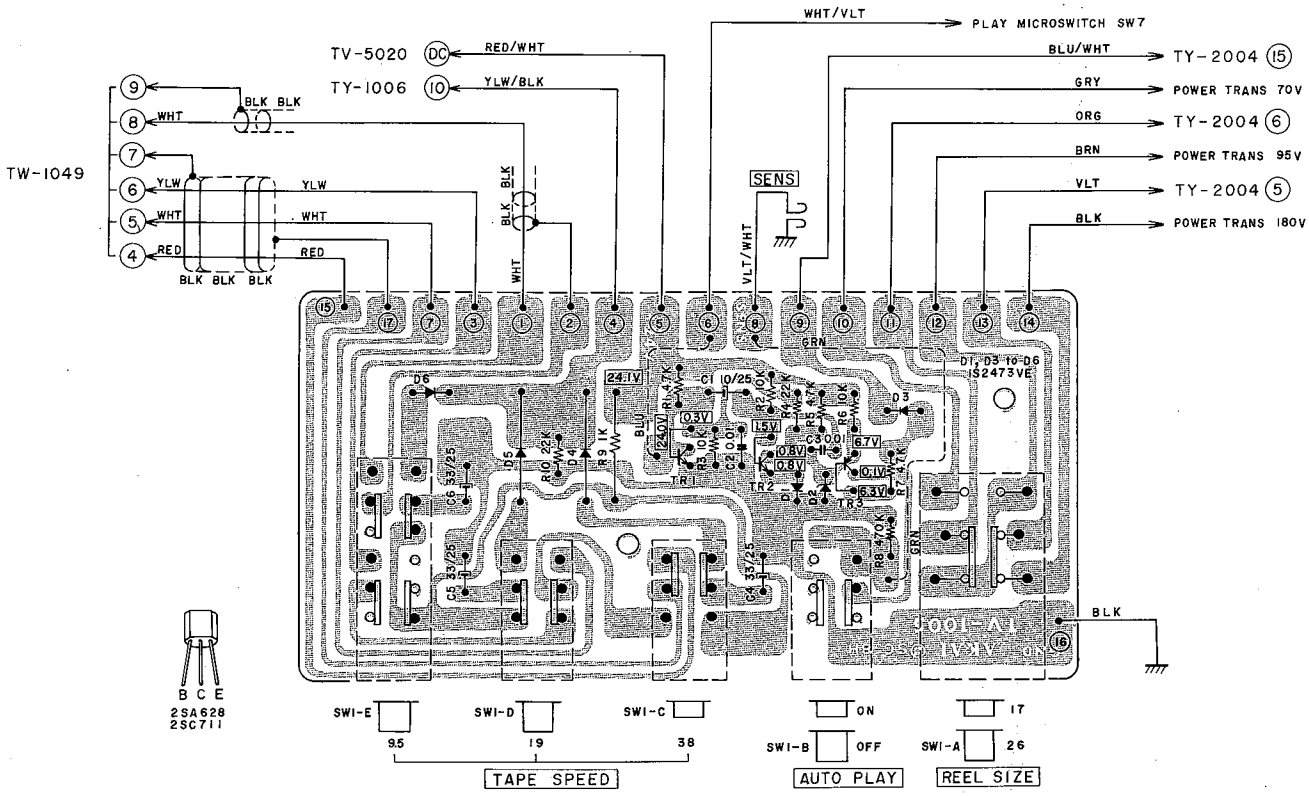
5. OSC P.C BOARD TV-5025



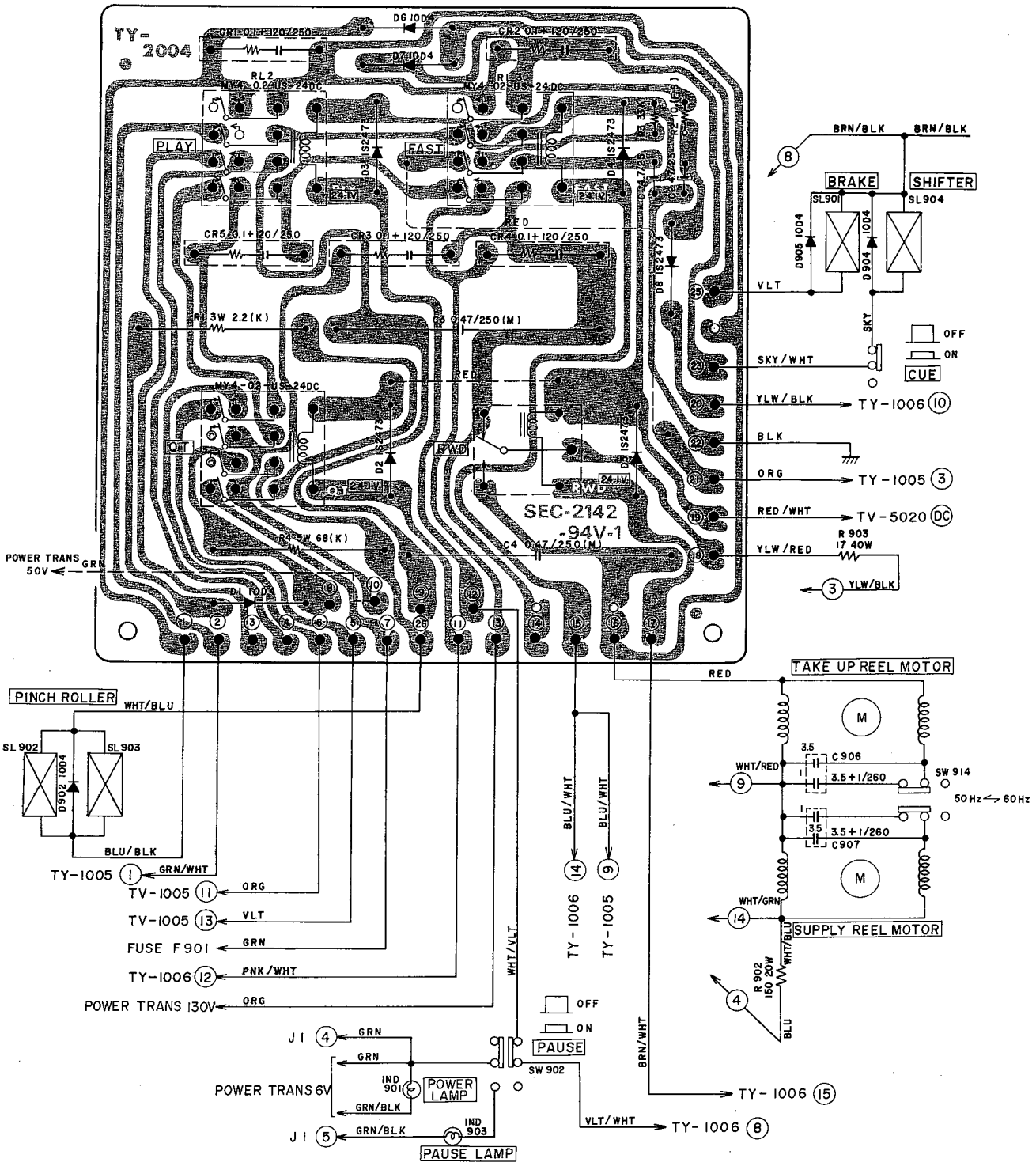
TR1, 2 2SC1247A(B)(V)
TR4, 6 2SC458(C)
TR5 2SA733(P)(Q)



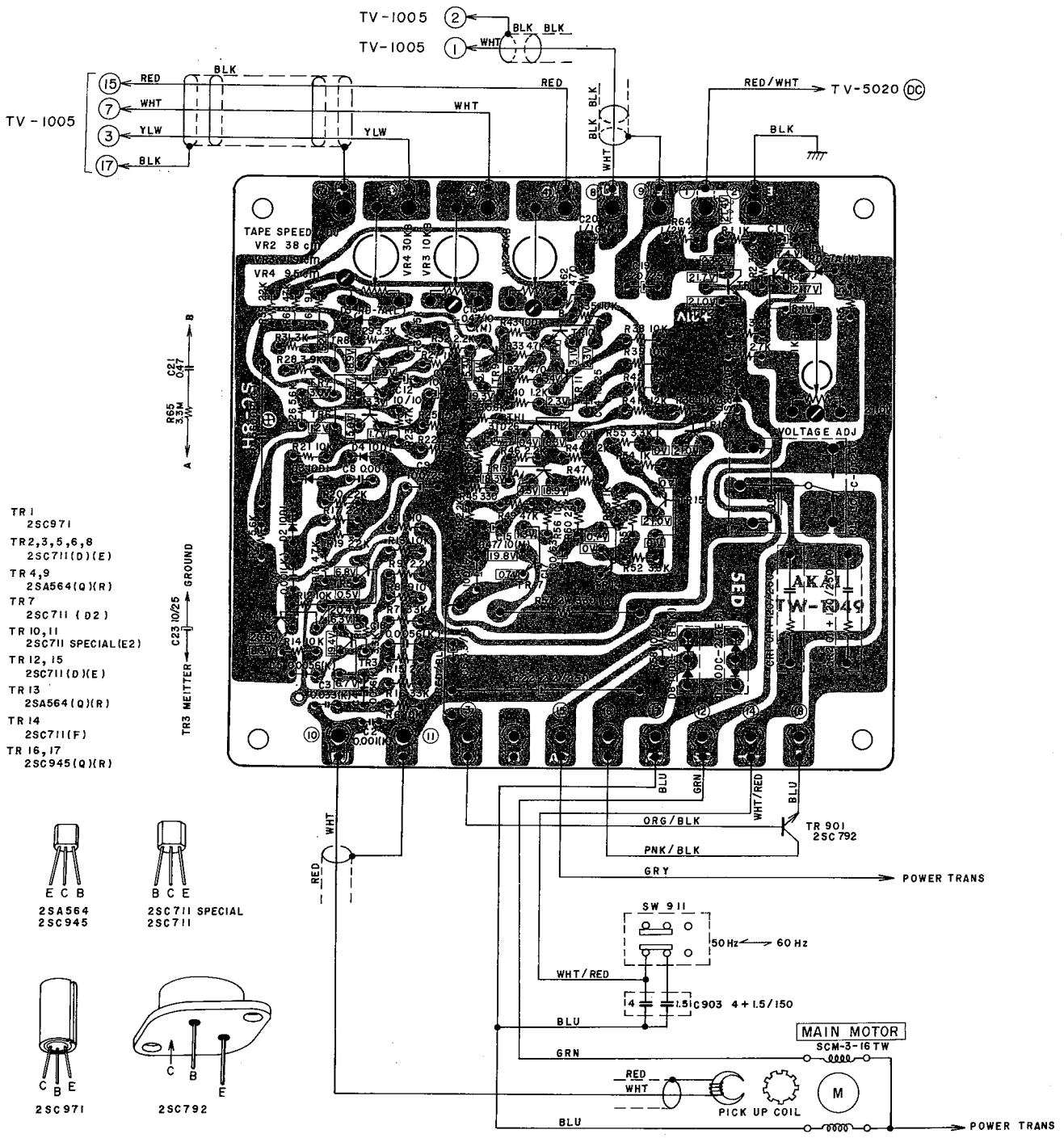
6. MODE SWITCH P.C BOARD TV-1005



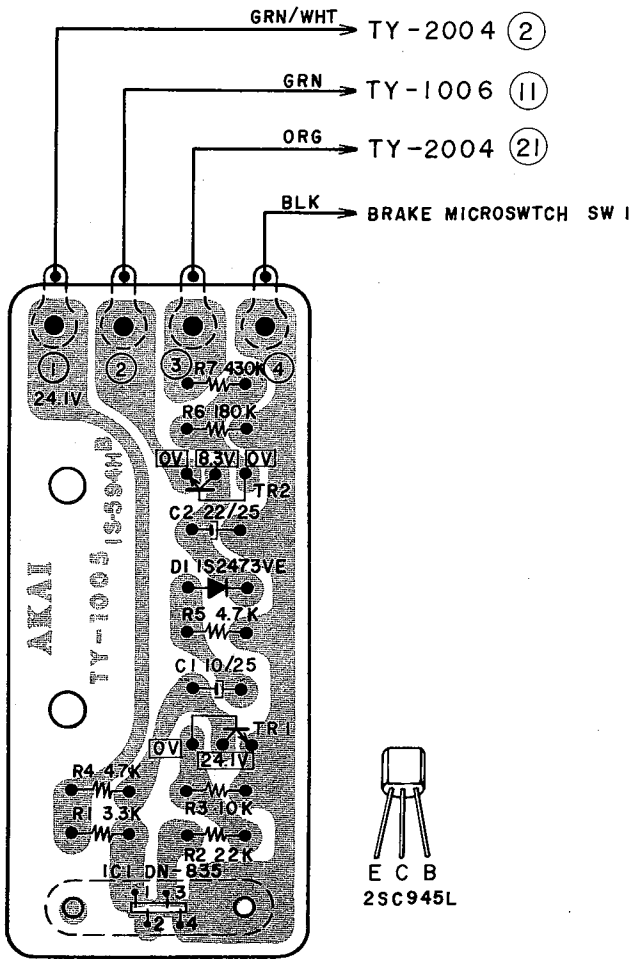
7. RELAY P.C BOARD TY-2004



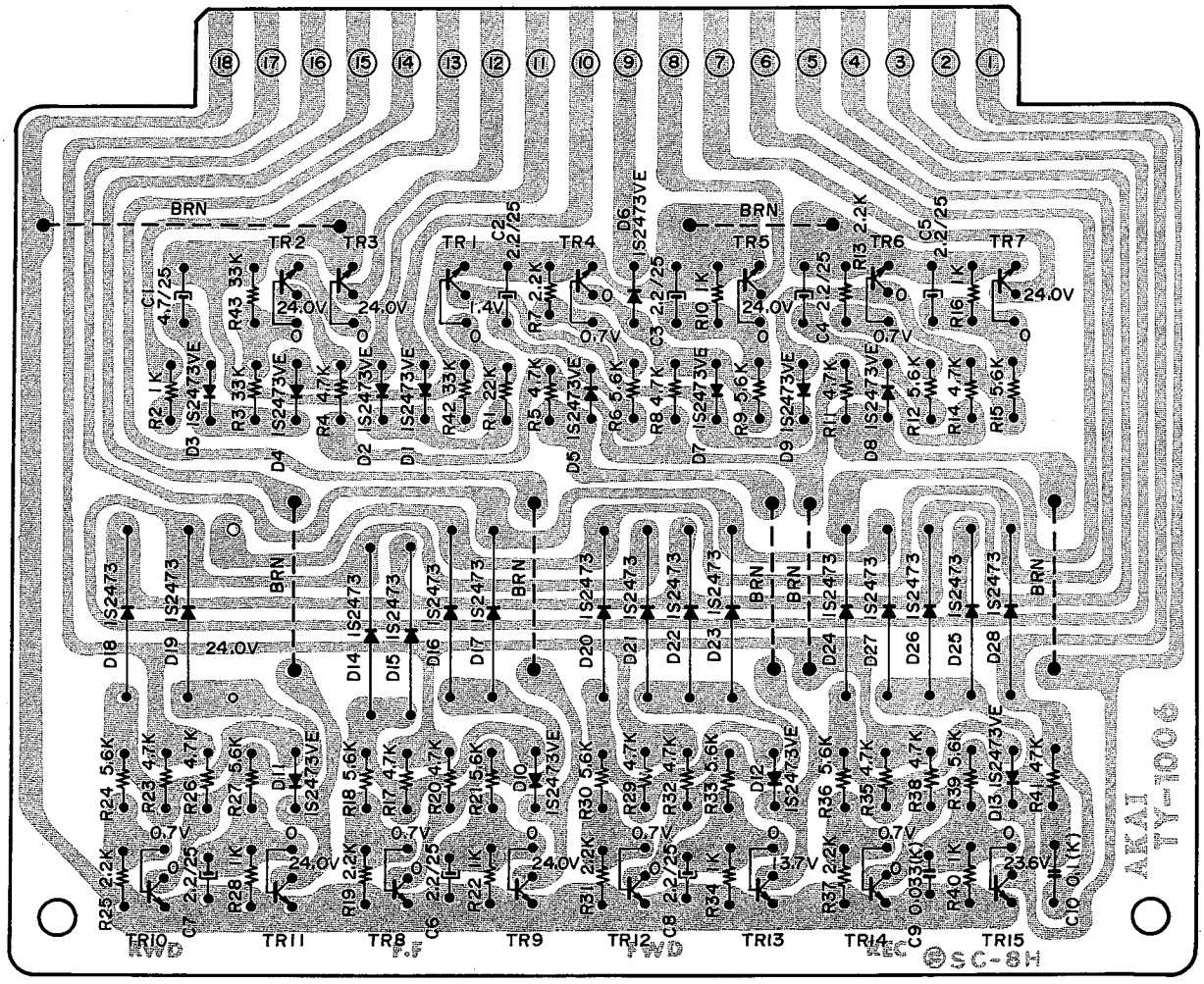
8. SERVO P.C BOARD TW-1049



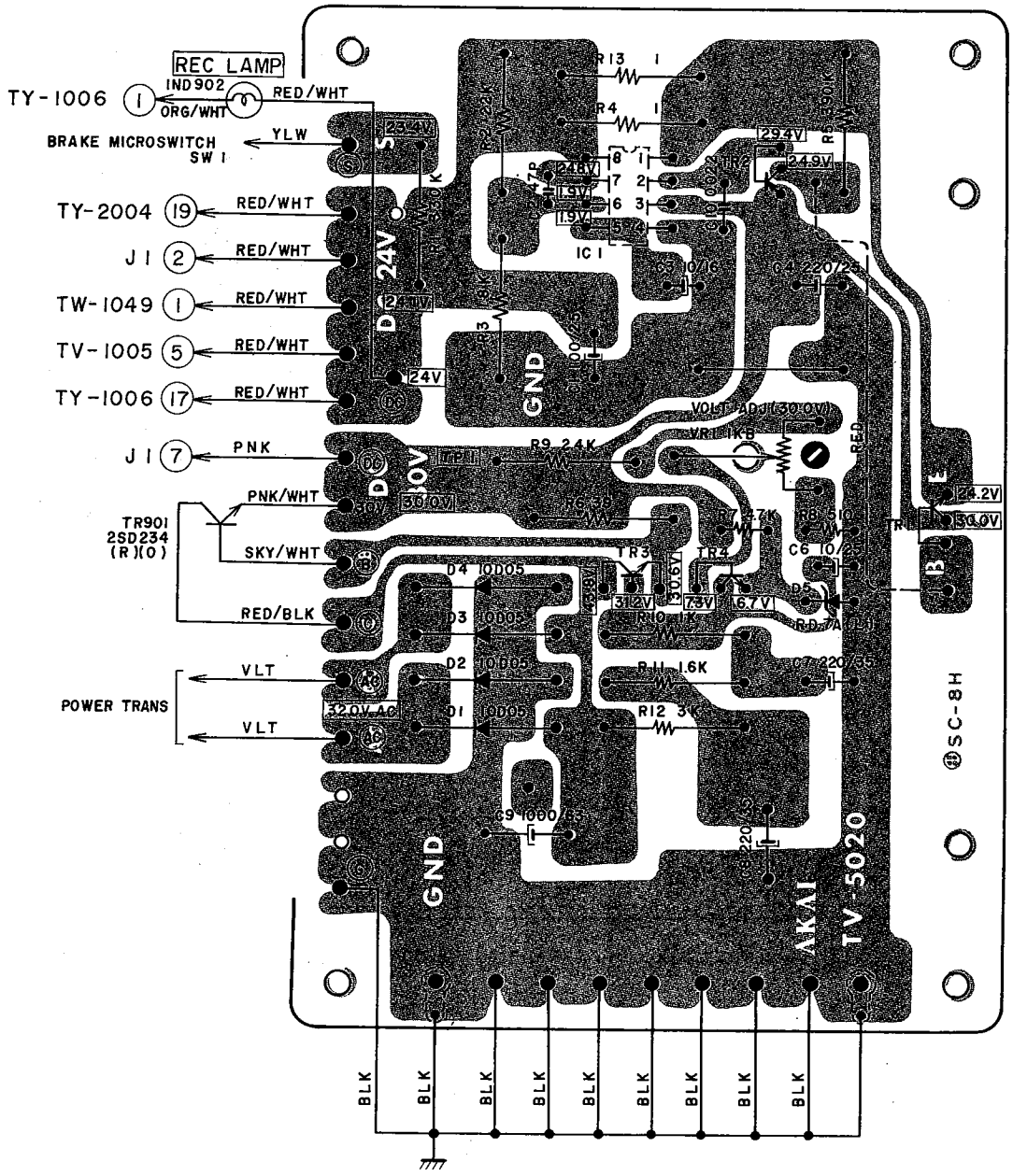
9. HOLE IC P.C BOARD TY-1005



10. SYS. CON P.C BOARD TY-1006



11. POWER SUPPLY P.C BOARD TV-5020



TR1 2SD361(D)(E)
TR2 2SA733(P)(Q)
TR3 2SC1014(C)(D)
TR4 2SC945L(P)(Q)
IC1 μPC 305

BASIC PARTS LIST

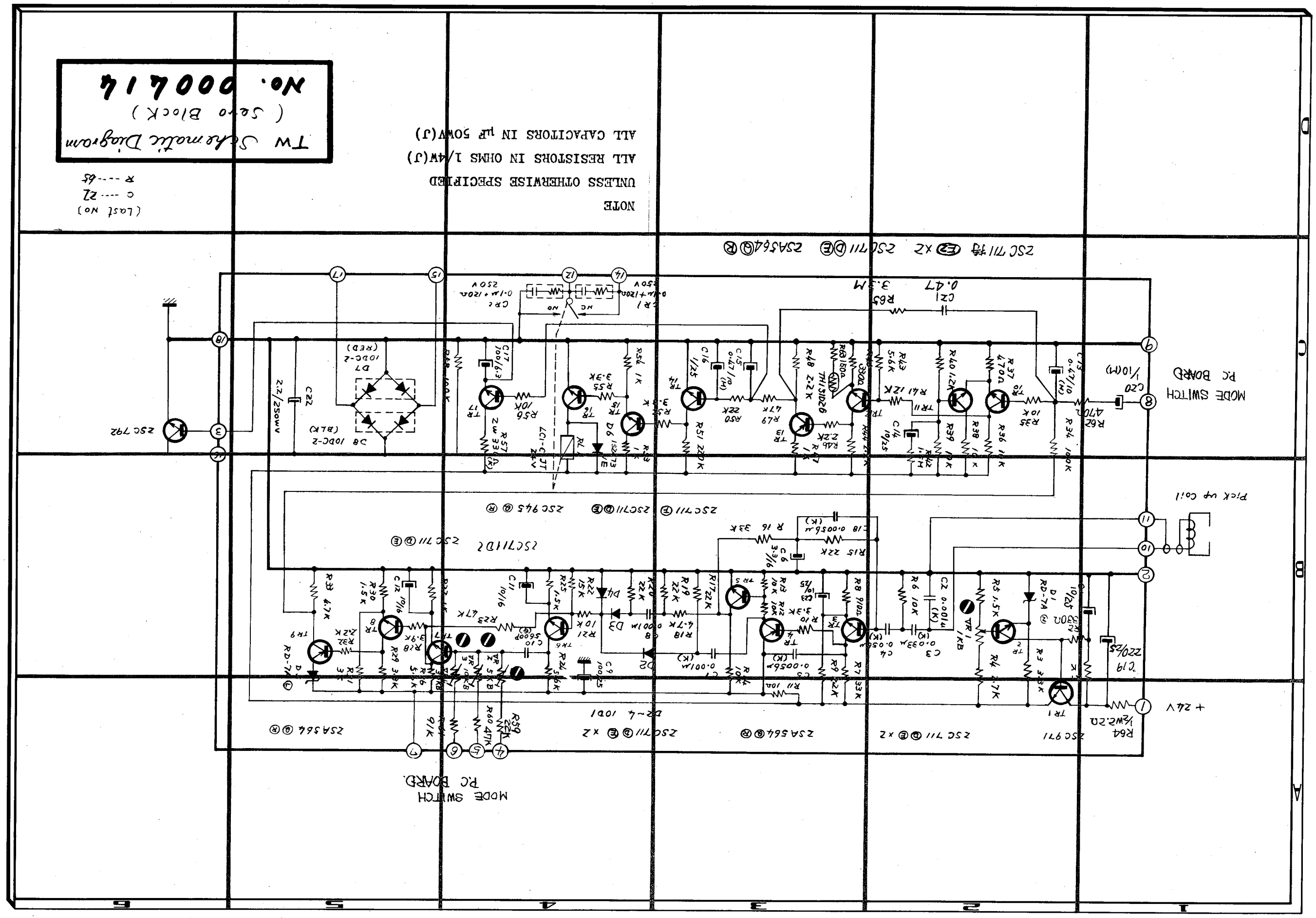
Parts No.	Description	Schematic No.
SK214143	Push Button A Part	TV-6008
SK237971	Push Button B Part	TV-6008
ZW214121	Tension Arm Washer	TV-6007
SP213704	Sub Panel	TV-6010
SK214233	Amp. Knob C-1	TV-6014
SK214244	Amp. Knob C-2	TV-6014
SK214255	Bias Knob	TV-6015
SK214187	Pre-Set Knob A	TV-6013
SK214211	Pre-Set Knob B	TV-6013
SK214154	Amp. Knob A-1	TV-6011
SK214165	Amp. Knob A-2	TV-6011
SK214176	Amp. Knob B	TV-6012
BC213478	Mecha. Case	TV-6017
EZ213557	Connector Cover	TV-6019
SE214266	Case Bush	TV-6018
SA214277	Square Foot A (Part)	TV-6020
SA214288	Square Foot B (Part)	TV-6020
BC234292	Amp. Case	TV-6022
SP228947	Mecha. Panel	TV-6001
SC214391	Head Cover Base	TV-6004
SZ214413	Head Cover Holder	TV-6005
SC213502	Head Cover	TV-6006
SE214110	Tension Arm Escutcheon	TV-6003
SP213682	Amp. Panel	TV-6009
EJ214378	Jack Plate	TV-5011
MZ216180	Main Case Cap	TV-1001
SB227788	Operate Button A	TV-2006
SB227790	Operate Button B	TV-2006
SB219633	Operate Button C	TV-2006
SB219644	Operate Button D	TV-2006
SB219677	Operate Button E	TV-2006
SB219767	Operate Button F	TV-2006
BA293782	Sys. Con P.C Board	TY-1008
EI213827	IC MPC-305C	
ES228960	Tape Switch (1)-A	CI-6028
ES216134	Tape Switch (2)-A	CI-6029
EJ246565	Jack Plate TV	31-5-135
ES213805	Slide Switch TV	
BA236417	Equalizer Sw. P.C Board Comp.	TV-5021
BA236430	Monitor Sw. P.C Board Comp.	TV-5022
BA236452	Selector Sw. P.C Board Comp.	TV-5024

Parts No.	Description	Schematic No.
BA236474	Trimmer Vol. P.C Board Comp.	TV-5026
EJ619187	Plug 11P (W/Flange) PA-6038-00	42-1-81
EJ619198	Socket US S8-4038-00	
BL236373	Tension Arm (R) Block Comp.	
BL236362	Tension Arm (L) Block Comp.	
EM213761	VU Meter TV	
BZ236327	Operation Block Comp.	
BA293826	Servo P.C Board Comp. TV	
BH236294	Head Block.	
EW246532	Output Cord A TV	
EW262697	AC Cord B	
EW246554	Output Cord C TV	
BA662837	Relay P.C Board Comp.	TY-2018
ES213840	Lever Switch SLK04202	
BA236441	Volume P.C Board Comp.	TV-5023
BA236463	OSC P.C Board Comp.	TV-5025
ES213412	Rotary Switch SRD-L1043	
EV213366	Vol. DJ10E 50KB×2	
EV269976	Single Axial 2 Throw Vol.	
EV213355	Double Vol. DJ60E 50KB×2	
ES213895	Lever Switch SLK04301	
EV213941	Single Axial 2 Throw Vol.	
EV213928	Single Axial 2 Throw Vol.	
SK691288	Selector Knob	CI-6020

TW Schematic Diagram
(Servo Block)
No. 00014

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

(Last No)
C ---- 21
R ---- 65



PRO 1000
SCHEMATIC DIAGRAM
MECHA BLOCK
NO. 000903

SERVO P.C.B
TW-1049
(NO. 000414)

TR901 2SC794

REMOTE

SW905 F.FWD
SW906 RWD
SW907 PLAY
SW908 REC
SW909 STOP
SW910 TENTION

ACCIDENT PICK'UP P.C.B
TY-1005

SYSCON P.C.B
TY-1006

POWER SUPPLY P.C.B
TY-5020

MODE SW P.C.B
TY-1005

RELAY P.C.B
TY-2004

SW901 BRAKE
SW902-A
SW902-B
SW911
SW912

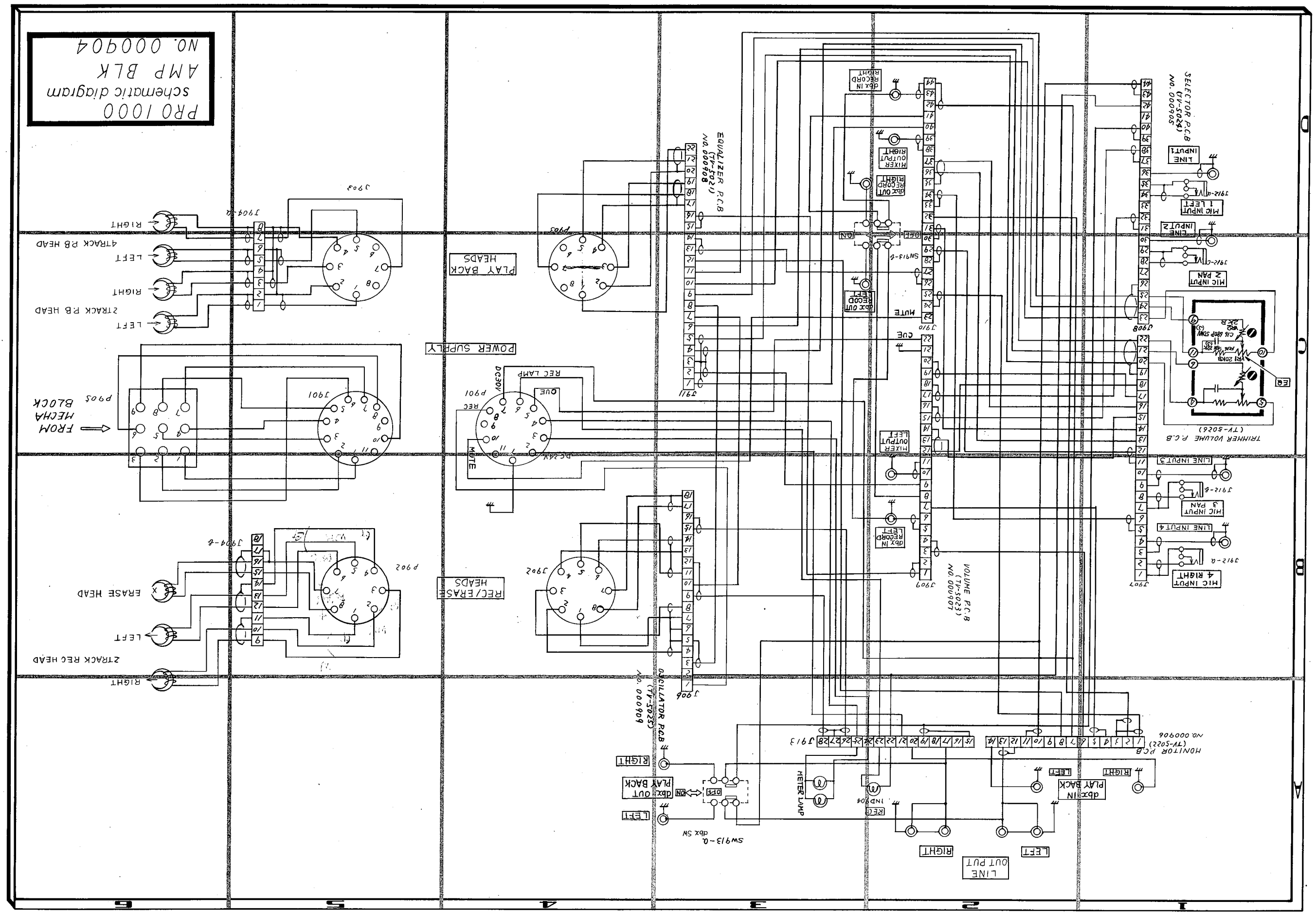
IND901 POWER LAMP
IND902 REC LAMP
IND903 PAUSE LAMP

TO AMP BLOCK

MAGNET

NOTE UNLESS OTHERWISE SPECIFIED;
RESISTERS IN OHM ¼W(Ω)
CAPASITORS IN F 50WV(Ω)
ELECTROLYTIC CAPACITORS(+) IN F 50WV
Mix mode is switched with SW914.

PRO 1000
schematic diagram
AMP BLK
NO. 000904



TO VOLUME P.C.B +B

TR1 2SC1000(GR)
TR2,3 2SC458LG(C)×2

TR4 2SC945L(P)(Q)

MIC
ATT 20dB
LINE
SW-A
SW1-B
SW1-C

INPUT 1 SELECTOR
INPUT 2 SELECTOR
INPUT 3 SELECTOR
INPUT 4 SELECTOR

PAN
VR1 20KB×2

MAX
MIN
VR2 50KA×2
LEVEL

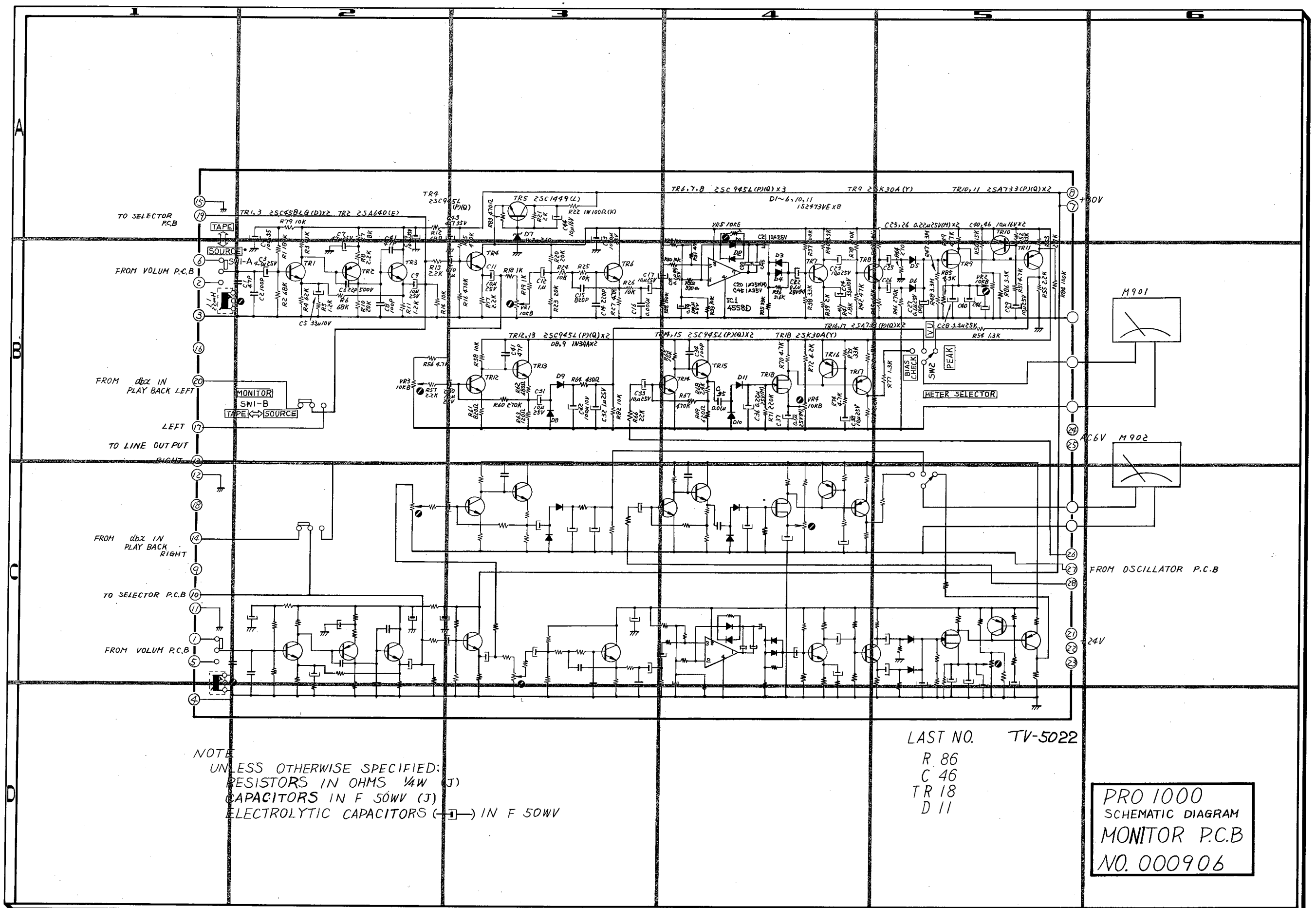
PHONES
T1 NV9-228S

TO VOLUME P.C.B
FROM VOLUME P.C.B
FROM EQUALIZER P.C.B
TO VOLUME P.C.B
FROM MONITOR P.C.B

LAST NO
R25
C11
TR4

NOTE
UNLESS OTHERWISE SPECIFIED;
RESISTORS IN OHMS 1/4W (J)
CAPACITORS IN F 50WV (J)
ELECTROLYTIC CAPACITORS (⊣⊢) IN F

TV-5024
PRO-1000
SCHEMATIC DIAGRAM
SELECTOR P.C.B
No. 000905

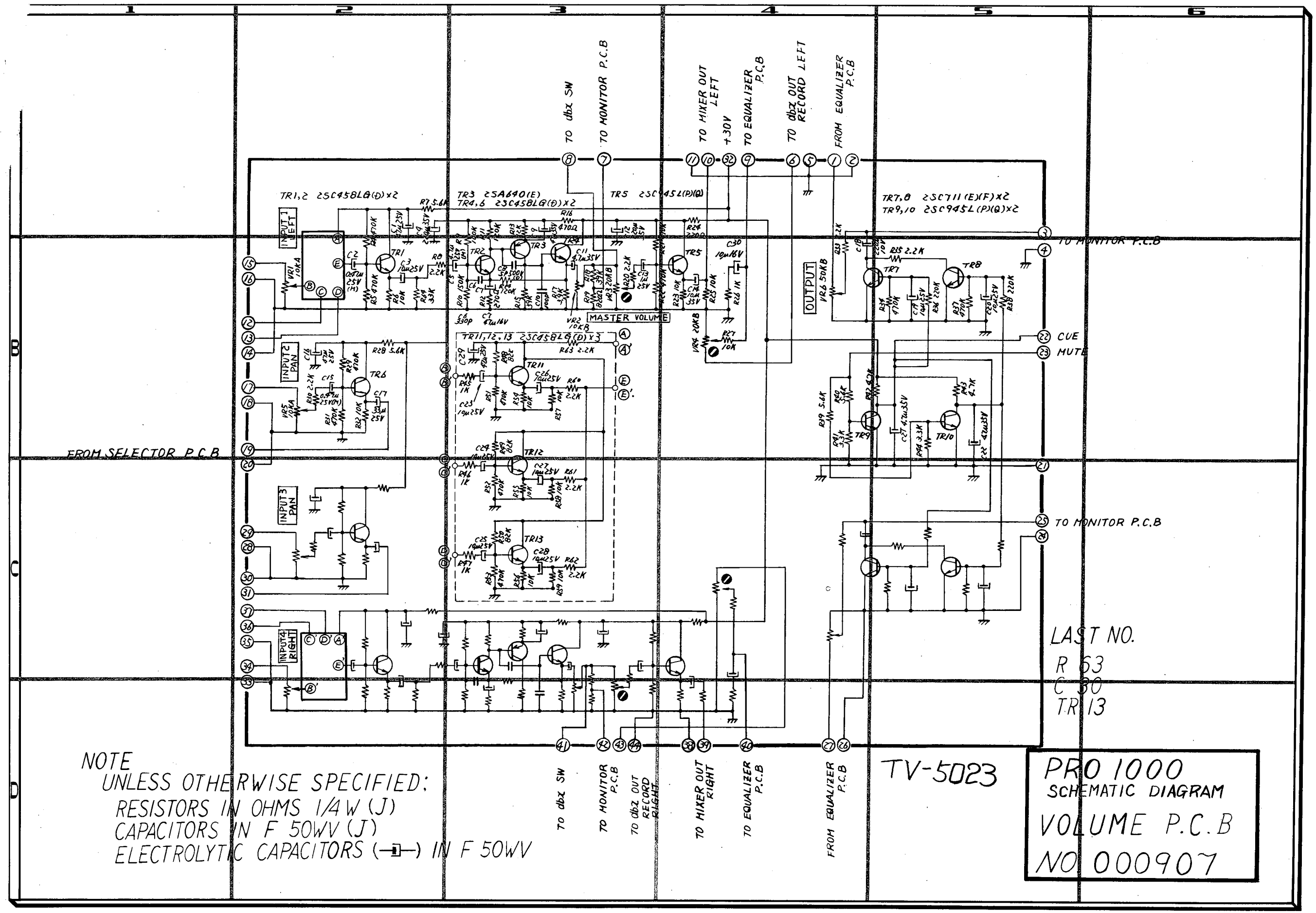


NOTE
UNLESS OTHERWISE SPECIFIED:
RESISTORS IN OHMS ¼W (J)
CAPACITORS IN F 50WV (J)
ELECTROLYTIC CAPACITORS (—|+|—) IN F 50WV

LAST NO. TV-5022

R 86
C 46
TR 18
D 11

PRO 1000
SCHEMATIC DIAGRAM
MONITOR P.C.B
NO. 000906

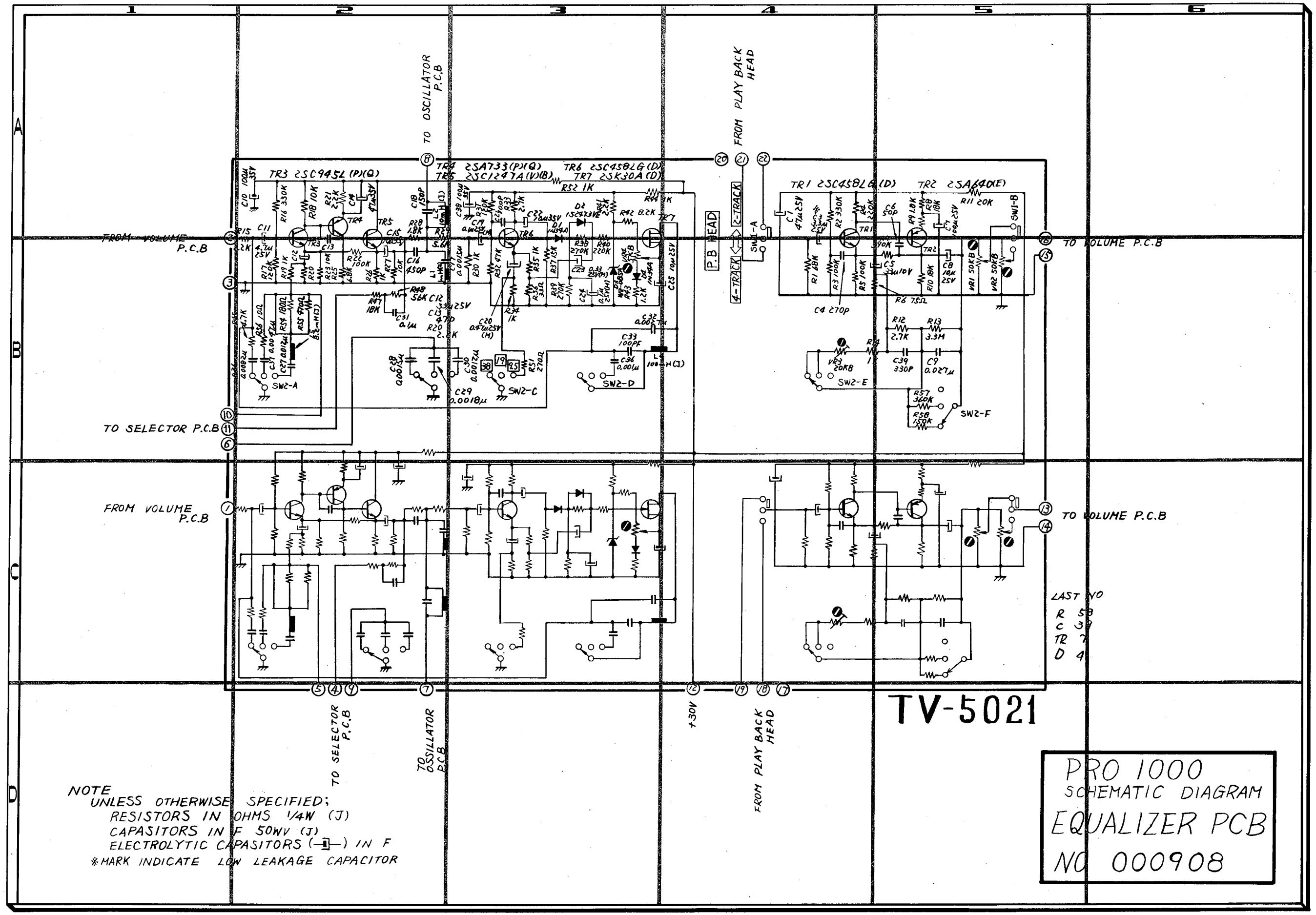


LAST NO.
R 63
C 30
TR 13

NOTE
UNLESS OTHERWISE SPECIFIED:
RESISTORS IN OHMS 1/4W (J)
CAPACITORS IN F 50WV (J)
ELECTROLYTIC CAPACITORS (—▮—) IN F 50WV

TV-5023

PRO 1000
SCHEMATIC DIAGRAM
VOLUME P.C.B
NO 000907

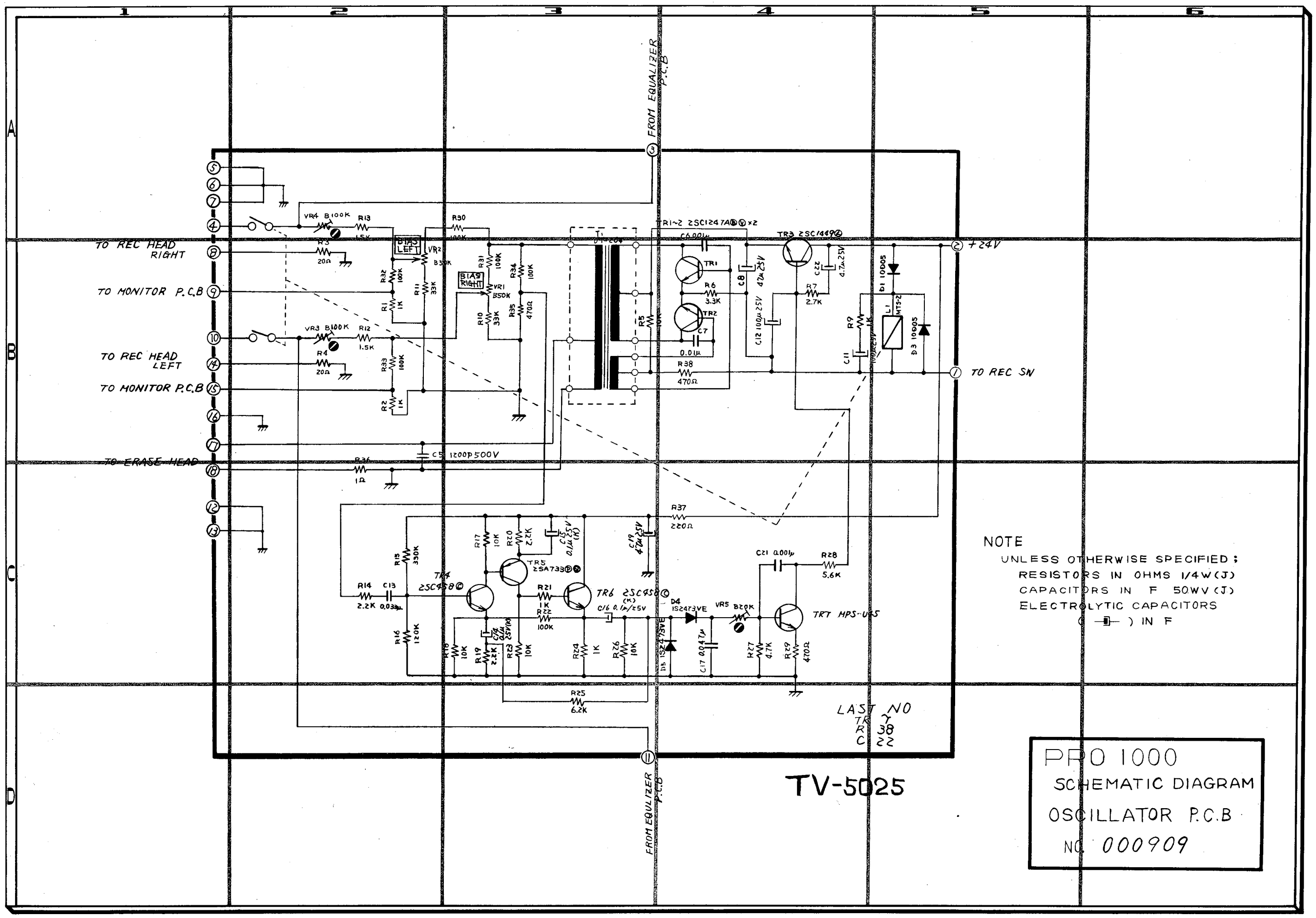


LAST NO
R 58
C 39
TR 7
D 4

TV-5021

NOTE
UNLESS OTHERWISE SPECIFIED;
RESISTORS IN OHMS 1/4W (J)
CAPASITORS IN F 50WV (J)
ELECTROLYTIC CAPASITORS (-▮-) IN F
※MARK INDICATE LOW LEAKAGE CAPACITOR

PRO 1000
SCHEMATIC DIAGRAM
EQUALIZER PCB
NO 000908



NOTE

UNLESS OTHERWISE SPECIFIED ;
RESISTORS IN OHMS 1/4W (J)
CAPACITORS IN F 50WV (J)
ELECTROLYTIC CAPACITORS
(—|—) IN F

LAST NO
TR 7
R 38
C 22

TV-5025

PRO 1000
SCHEMATIC DIAGRAM
OSCILLATOR P.C.B
NO. 000909